FIG. 1.—AEOLIAN HALL. Walter Cave, Architect

Designing for Musical Tone

BY HOPE BAGENAL [*A.*]

THE small concert room used for chamber music should be specially designed for musical tone. In the small concert room compared to the large defects are more obvious and the nice instrument of the soloist is more open to criticism. Also a greater variety of tone quality occurs in the chamber music hall. It is possible to have in it violin, harpsichord, flute, voice, piano solo, and a chamber orchestra on the same platform in a week. And the tone requirements of these are all different.

A soloist when he praises a hall refers usually to one of three factors :—

1. A sense of ease and " power " in producing tone and therefore absence of fatigue.

2. The enhancing of the character of his own voice or instrument, for instance the " richness " of a bass voice, the " emotional variety " of a violin, the " purity " of the flute.

3. Ease of phrasing and balance between tone production in the upper and lower register, for instance whether a violinist can work with the weight of the bow alone ; whether the pianist has to subdue his bass or his treble, or on the other hand can play with freedom.

It is well known that the tone quality of musical instruments depends on the series of partials or overtones possessed by each instrument. Every instrument consists of a *generator* (such as the strings of a violin or reed of a clarinet) which produces tone, and a *resonator* (such as the violin body and the tube of the clarinet) which reproduces it and at the same time amplifies and modifies it. It amplifies by spreading the vibrations over a wider area, for instance over the whole sound board of a piano, and modifies by selecting some partials above others in the resonating process.* The nature of the sympathetic vibrations between generator and resonator, and the nature of that selecting process determines the quality of any tone. But we now know that all the materials used in the construction, fitting and furnishing of a room will absorb selectively, that is to say will absorb some tones

* To realise the difference due to the resonator we have only to compare, in the clarinet, the buzz caused by the reed alone with the sound of the instrument itself.

of a musical series more than others. Therefore when we take a musical instrument from out-of-door conditions and introduce it into a room we are adding to it a second " resonator " which will, in turn, modify tone. This is perfectly recognised by organ builders who have to design an organ differently for every hall or church, and who have to take into account the relative amounts of masonry, wood, or glass present.*

Since, then, the room must be inevitably a resonator of some kind we must make it as valuable as possible. Tone can be amplified by developing the wood floor of the platform which should have an enclosed air space beneath it of about 6 inches. The difference between a small upright and a grand piano (among other factors) is the difference in size of the resonator or sound board, and such a difference can easily be made by the architect in the design of a concert room. If the resonator formed by the orchestra floor can be continued up the walls of the proscenium or platform recess in the shape of panelling jointed to the floor, then size and efficiency will be increased. Panelling, orchestra floor and platform front can be made one continuous resonator if contact is preserved at the edges and if the air space behind the wood communicates. Such a resonator is shown in Fig. 2. Since resonating surfaces propagate sound in a direction normal to their surface wood panelling carried up the walls is specially useful. All wood panelling is more efficient if in contact with platform floor, and this point should be remembered in design. The increased power secured in this way is specially valuable for 'cellos and double basses—instruments in any orchestra generally in need of strengthening.

Also, since a resonator cannot help modifying tone as well as amplifying it we should first get good general tone conditions suitable for average musical requirements. Tone conditions depend first upon reverberation, and since reverberation varies inversely with the absorbing power and since the audience absorbs 80 per cent. to 90 per cent. of the whole it follows that the seating is a direct factor. The tendency in England is to increase galleries and to add extra seats in as small a cube as possible. But the concert room should not be packed like a theatre. A proportion should exist between the volume and the absorption—roughly 40 to 50 cubic feet for every absorption unit. In music rooms a proportion of this kind is more important than any other.† It is interesting that the Odeion at Termessos, a Greek concert room for chamber music holding 600 persons, gives, upon analysis, the right proportion.* Other halls such as the Kilbourn Hall in America, the Aeolian Hall, London (Fig. 1), Uppingham School music room, King's Hall, Armstrong College, Newcastle, acknowledged to be good for tone, have either by chance or design achieved a proportion of this kind. The Kilbourn Hall, in America, was very carefully designed for chamber music requirements.

When we come to consider varying tone conditions for different instruments the problem is difficult but by no means impossible.

We have from the musicians themselves a series of terms describing their reactions to the building as an instrument; tone is described as " easily produced," as " full," " bright," " soft," " rich," " hard," " thin," " dead," " dull," as " true value," as " forced," and so on. In a series of tests carried out with the permission and active help of the Building Research Board, in their temporary laboratory at Harlesden, an attempt was made to test the result on tone of a series of common materials with direct reference to the satisfaction of the players and singers. The different materials were introduced into the chamber as required. A tenor voice, bass, violin, piano, 'cello and viola were present. For the sake of clearness musicians were asked to note their impressions as follows:—

1. Reverberation—too long or too short, or suitable. Possibility of good phrasing?
2. Tone—full, bright, rich, soft?
3. Tone—hard, thin, dead, dull?
4. Loudness—sense of power, body of tone?
5. Reinforcement of notes—even or uneven?
6. Conditions. Which hall do results resemble?

This scheme was not rigidly adhered to but musicians were asked to distinguish these points separately and endeavour to note them.

Various common building and lining materials were then introduced into the room in order to provide different tone conditions. Each singer and player had one special song or piece of music for all tests and also sang or played as he or she felt inclined.

The first obvious result was that a minimum reverberation was required for all instruments, namely, about 2 seconds. (The volume of the test chamber was 95,000 cubic feet.) The conditions pronounced the best by Mr. Eugene Goossens gave a reverberation (C_4) as much as 2·6 seconds. Perhaps the sense of power given by this length of reverberation influenced opinion. These conditions were compared to the Kilbourn Hall, in America, a concert room pronounced excellent for chamber music by Mr. Goossens. The Kilbourn Hall has reverberation 2·2 seconds, for one-third audience (170 people). The sense of power

* In an organ each note has its own separate resonator—the pipe—and each pipe for every stop must be tuned in its place in the room because the room modifies its tone. The amount of glass present in any auditory is important in organ design because powerful low notes are transmitted through glass and are not reflected as high notes are reflected.

† See Watson's *Acoustics of Buildings*, p. 30, for an excellent analysis of this proportion in a number of concert rooms acknowledged to be good for tone.

* See *A.A. Journal*, Vol. XLI, July, 1925, p. 40.

varying with reverberation was appreciated by all the instruments and applied specially to the piano.

Scarcely less important was the variety of materials necessary to secure a balance of tone between treble and bass. The elements contributing to the absorption for the set of conditions pronounced the most generally satisfactory were :—1. Thick felt pads. 2. Curtains of thin felt hanging loose. 3. Wood near the source of sound. These were in the proportion, roughly, of 100, 150 and 200 square feet. These factors in combination with the audience of five, and the brick and plaster walls, were found to give a certain uniformity of reverberation over a number of octaves. This uniformity went with good phrasing and ease of playing, especially in the case of the violin and piano. When materials showing marked variation between absorption in treble and bass were introduced alone into the chamber phrasing was difficult and sustained playing was more fatiguing.

Without labouring these results it is possible to apply them generally to the design of concert rooms. From the Sabine curves we know that thin felt curtains hung loose absorb relatively in the upper register,* that thick felt and cushions absorb relatively in the middle register, and wood relatively in the low register. By combining these in a concert room an approximate uniformity of reverberation over the whole scale can be had, which, as we have seen, is practically desirable. In designing it should be borne in mind that the common absorption figure given for materials, for employment in Sabine's formula, is for C_4, that is, for the middle register only, and is therefore only a fraction of the data required for true tone design. In the table given below materials are classified and their coefficients given in three positions of the scale. It is noticeable that musical auditories universally approved, like the Gewandhaus, Leipzig, and Covent Garden Opera House, have in addition to the audience factor a considerable area of wood and of drapery.

TABLE OF COEFFICIENTS COMPARED FOR THREE POSITIONS IN THE SCALE.

Material	C_2	C_1	C_8
(Suitable for absorbing in the upper register.)			
Felt curtains ½ inch thick (Sabine) ..	0·04	0·17	0·52
Sabine plaster (B.R.B.)	0·15	0·21	0·27
Akoustolith tile (Guastavino catalogue)	0·05	0·36	0·52
(Suitable for absorbing in the middle register.)			
Felt 1 inch thick with air space behind (B.R.B.)	0·21	0·39	0·32
Carpet on felt under-mat (B.R.B.) ..	0·26	0·32	0·27
Hair cushions per square foot (Sabine)	0·28	0·54	0·53
(Suitable for absorbing in the lower register.)			
Slag wool 1½ inch (B.R.B.)	0·81	0·58	0·29
Wood ⅝ inch pine (Sabine)	0·10	0·13	0·08
Three-ply teak (B.R.B.)	0·19	0·15	0·14

* But thin materials stretched tight immediately become resonant and absorb in other parts of the scale also.

The aim of the architect, then, should be to get a right relationship in his hall between the volume, the area of wood and the area of the softer absorbents. In rooms for chamber music it is not enough to control reverberation by audience alone or to give the bare volume necessary to provide an adequate reverberation.

Now, it is well known that the bass voice, the piano, and instruments possessing powerful overtones will be " sweetened " by a relatively larger amount of absorbing material and therefore a relatively shorter reverberation. For this reason a soloist bass is generally found to prefer the Steinway with its shorter reverberation to the Wigmore Hall. On the other hand, instruments " pure " in tone, that is to say, in which the fundamental is predominant, such as the flute, the soprano voice, the viola* and the " smooth tone " of the horn will benefit by the general reinforcing due to a long reverberation, and derive a sense of power and " depth " of tone from it without undue " harshness." For this reason we find that the harpist and the flutist generally prefer the Wigmore Hall with its longer reverberation to the Steinway.

It is suggested that the problem of meeting the variations in tone character of different solo instruments can be solved along the following lines. Provide a due amount of permanent wood panelling and design adjustable curtains and areas of thick felt. Wood acts in a much more complex way than merely to absorb predominantly in the lower register ; it also reinforces and selects over the whole range in a way that is not yet fully analysed. Its presence is generally desirable in any concert room. Panels of unequal thickness will increase the range of effectiveness. Plaster on wood or metal lath is also resonant and selective, and the plaster walls and ceilings of concert rooms are far preferable on lath than straight on the brick or concrete. The designing of adjustable curtains for absorbing in the upper register is important. They should be made to draw out of tall chases or cupboards and extend round the platform or along proscenium walls. The thick felt for absorbing in the middle register should be designed in panels down the long sides of the hall and should have either a series of broad shutters, sash hung, to lift up and cover them, or else a species of " Venetian " blind or swell shutter over them. With these adjustables a short tuning up of the hall by the soloist himself would be necessary. If a flutist should carry a golden flute† into a hall of this kind he would require no curtain area, since the flute

* In the tests for tone at the B.R.B. laboratory the viola was found to prefer a longer reverberation and to be more articulate under it than any other instrument tested.

† " Elaborate analysis of the tones from flutes of wood, glass, silver and gold prove that the tone from the gold flute is mellower and richer, having a longer and louder series of partials than flutes of other materials."—Miller's *Science of Musical Sounds*.

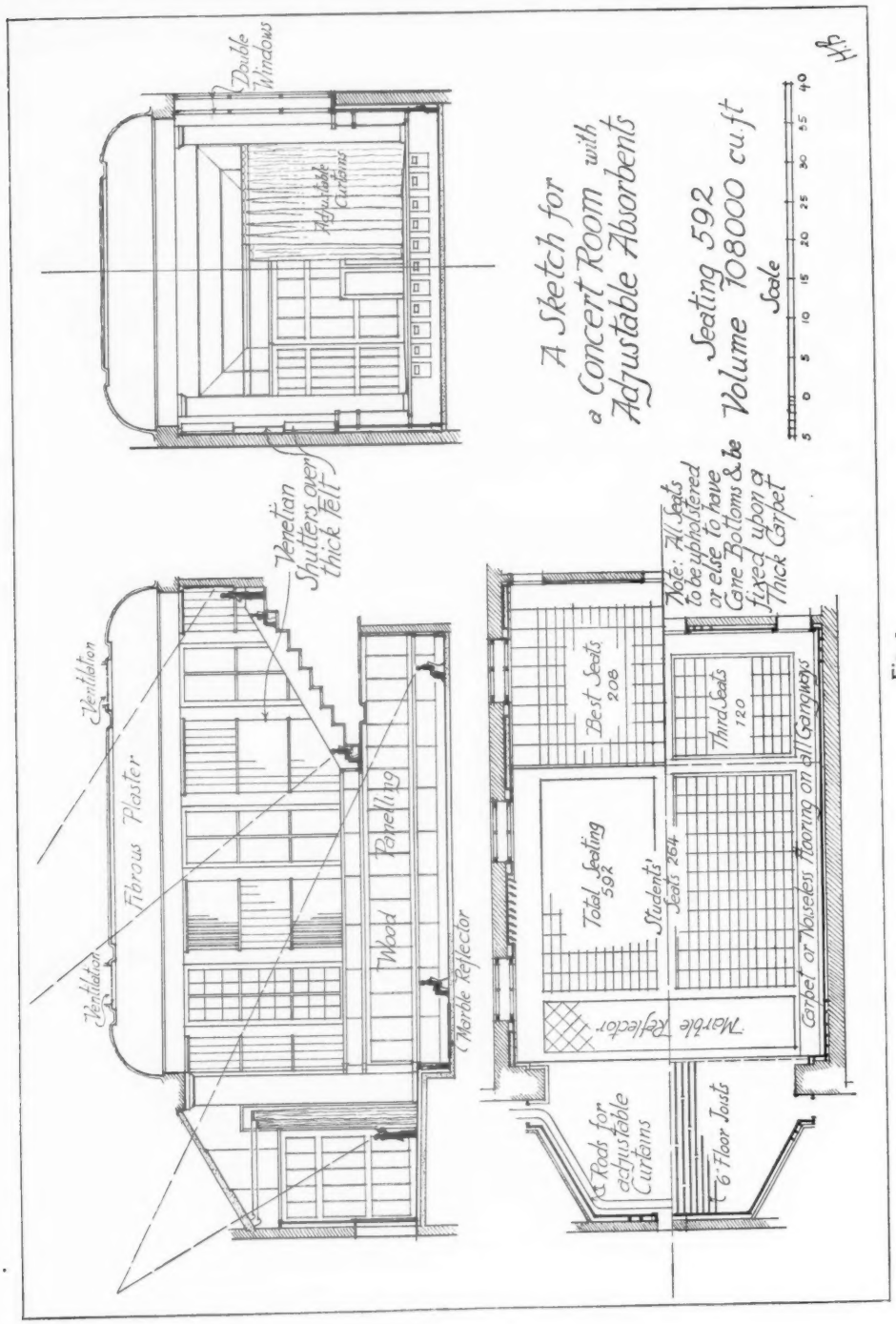
A Sketch for a Concert Room with Adjustable Absorbents
Seating 592
Volume 708000 cu ft
Scale
Double Windows
Adjustable Curtains
Venetian Shutters over thick felt
Ventilator
Fibrous Plaster
Ventilator
Wood Panelling
Marble Reflector
Note: All seats to be upholstered or else to have Cane Bottoms & be fixed upon a Thick Carpet
Best Seats 208
Third Seats 120
Total Seating 592
Students' Seats 264
Carpet or Noiseless flooring on all Gangways
Marble Reflector
Rods for adjustable Curtains
6" Floor Joists

Fig. 2

tone, even when rich, is decidedly pure and can stand a long reverberation. But since, when a flute is blown *forte*, the first partial or octave is liable to appear, he might well direct that some of the thick felt, absorbing in the middle register, be uncovered on one or both sides of the hall. A powerful bass voice, from the nature of his overtones, would probably require felt panels but not curtains, a soprano curtains but not felt panels. A hall tunable in this way would be equally useful for instruments whose character is an extreme flexibility and variation of tone, such as violin and 'cello, who are subject to moods. For these a " correction " in the hall after the first item on the programme might make an important psychological as well as acoustic difference to the player even if not immediately to be detected by the audience. For all cases the adjustments that could be made in such a hall to compensate for variations in the size of audience and therefore in length of reverberation would be valuable.

Fig. 2 is a sketch design for a hall of this kind seating 592 persons. It embodies only the bare necessities from a musical point of view. The adjustable curtains for absorbing in the upper register are placed in two recesses behind the proscenium, to be drawn out and round when required. Panels of felt 2 inches thick are placed on the side walls between windows and covered with " Venetian " shutters having louvers 6 feet by 1 foot and pivoted in a vertical position. These louvers would require to be opened and shut by mechanical means from below, according to the taste of particular performers. The platform, with stage front at one end and the panelling at the other, is made into one continuous resonator in order to amplify the sound. The air space behind these three is made continuous and the wood panelling at the sides of the hall connects up with the platform floor. A marble or tile reflector is placed in the floor immediately in front of the platform. This has the effect of setting back front seats 9 feet from the platform, and seats are graded according to their true value from a musical point of view. " Best seats " are placed in the gallery, where there is always the best assemblage of sounds upon the ear. The second seats are placed in the body of the hall nearest the platform and are called " students' seats," so that persons anxious to study fingering and action may be the nearest to the performers. Third seats are placed under the gallery, where, however, there will be a sufficient loudness owing to the angle of the overhead splay above the platform. Double windows in heavy iron frames are provided. The ventilation grilles are placed in the ceiling, where reflection of sound is not required.

The Architect in History; his Training, Status and Work

Part III

BY MARTIN S. BRIGGS [*F.*]

(*Continued from page* 613)

VII. THE RENAISSANCE IN ENGLAND.

The student of architectural biography of this period is confronted with an enormous mass of material, much of which is admirable in quality and profoundly interesting. Mr. Beresford Chancellor's *Lives of the British Architects*[187] summarises very capably the chief biographies, and monographs in the form of books or articles[188] deal with individual architects. Nevertheless, in spite of painstaking research on the part of some of our best scholars, we know less of English architects prior to the time of Inigo Jones than of their contemporaries in France and Italy. Thus we have no definite knowledge of the designers of Hampton Court, first under Wolsey and then under Henry VIII, though elaborate records and accounts of the works have been preserved.[189] It seems possible that the chief credit may be due to "Mr. Henry Williams, priest, surveyor of the works," as payments for the building were made in his presence monthly.[190] Italian craftsmen were employed largely during the sixteenth century in England, but their work seems to have been confined entirely to decorative details, and it does not appear likely that any of them merited the title of "architect" as generally accepted. But the influence of the Italian Renaissance is clearly manifested in a book by John Shute which was first published in 1563 and had an important effect on the trend of design in this country. (It is curious that only five copies of this book are known to exist, and that none of them is preserved in the British Museum, the best being in the R.I.B.A. Library.) The full title is:—

"THE FIRST & CHIEF GROUNDES OF ARCHITECTURE used in all the auncient and famous monymentes: with a farther and more ample discouse uppon the same, than hitherto hath been set out by any other. Published by Jhon Shute, Paynter and Archytecte. Imprinted at London in Fletestrete near to Sainct Dunstans churche by Thomas Marshe, 1563."

The opening chapter is headed "The discourse from time, to time hovve this science of Architecture increased." It begins with "the fludde of Noe," discusses the buildings of the Egyptians, Greeks, Etruscans, and Romans; and on the third page outlines:—"What the office and Ductie is of him that vvyll be a Perfecte Architecte or Mayster of buyldings," and then quotes or paraphrases Vitruvius on this at some length. The writer concludes that Vitruvius—

"nameth himselfe to be an Architect, wherein he thinketh him selfe parfait, But I the setter forth of this treatise in English, acknolage myself not to be a parfaict Architecte, (as he saith) nor yet Gramarian, and though I have put myself in prease, it is not through the depe knowlaige aboue rehersed, but I do it for to put in use an entraunce or beginning to them which be therein Ignoraunt, and desyre further Knowledge in these things, as hereafter appereth by the declaracion hereof."

The rest of the book is taken up by plates of the Orders, explanatory letterpress, and some account of antique temples and their intercolumniation. Shute has made extensive use of Serlio as well as of Vitruvius, and mentions the former in the colophon with which his "smal trauailes" conclude. It appears fairly certain that the author studied in Italy from 1550 for some time, but not, as sometimes stated,[191] that his book was reprinted twice after 1563.

Next comes the problematical personality of that John Thorpe whose famous book of Drawings, preserved in the Soane Museum,[192] has given rise to so much speculation and controversy in recent years. It is a small folio of 280 pages, and contains plans and elevations of a large number of houses built between *c.* 1570 and *c.* 1600. Some of these are drawn to scale; others are merely rough sketches; some illustrate buildings which he is believed to have designed; others represent even more certainly work for which he was not directly responsible. We do not even know how many of the pages were actually drawn by his own hand, still less can we be sure that any of them are plans of his own buildings. Mr. Gotch thinks that he drew most of them personally,[193] but Sir Reginald Blomfield doubts this and, moreover, is of opinion that they are probably only surveys drawn after completion of the buildings rather than working plans drawn in advance.[194]

All that we know otherwise of John Thorpe is that he was employed at Ampthill (a royal house), as surveyor; that a writer in the *Gentleman's Magazine* of 1612 describes him as "an excellent geometrician and surveior"; that in 1600 he was "one of the clerks of Her Majesty's works";[195] that in the same year he visited Paris, where he either built or surveyed a house in the "Faber St. Jarmin" for Marie de Medicis and another house for "Monsieur Jammet"; and that his son John followed in his professional footsteps. Sir Reginald Blomfield observes that "it is not even certain that he was an architect at all." At all events his status is tantalisingly obscure, and one would gratefully welcome further light on his remarkable book of drawings.

Of the remaining names of so-called "architects" during the reigns of Elizabeth and James I, only two or three can be accepted. The epitaph of Robert Smithson, who died in 1614, describes him as "gent, architect, and

[187] Published 1909. [188] See Bibliography at end of this Essay.
[189] Ernest Law, *History of Hampton Court* (1924), p. 28.
[190] *Ibid.*, p. 106.
[191] W. J. Loftie, *Inigo Jones and Wren* (1893), p. 93.
[192] Bought by Sir John Soane in 1810.
[193] Gotch, *Early Renaissance Architecture in England* (1901), p. 226.
[194] Blomfield, *Short History of Renaissance Architecture in England* (1900), pp. 33-8.
[195] Letter from Sir H. Nevill, dated 16th May, 1600, in the Salisbury Papers.

surveyor unto the most worthy house of Wollaton with divers others of great account," which may mean either that he was the " resident architect " at Wollaton, or that he did in fact design and build the house. He is also described as the " free master mason " of the works at Longleat.[196] Thus, though we now meet with the term " architect," we cannot be sure that any great change in his status has taken place since the Middle Ages. Huntingdon Smithson (d. 1648), son of the last, is said " to have been sent to Italy by his patron in order to gather

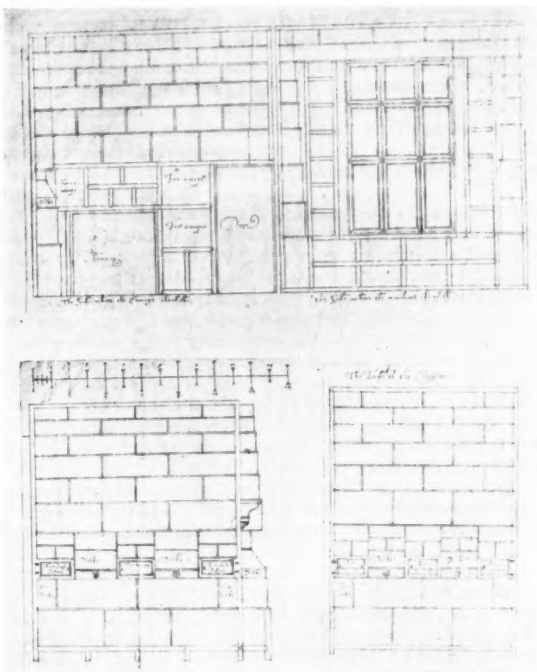

FIG. 14.—DETAIL DRAWING OF A PANELLED ROOM WITH BOOKCASES
From the Smithson Collection (early 17th century)

materials and designs,"[197] and his work at Bolsover certainly shows an extensive knowledge of German detail also. But the Smithsons are chiefly noteworthy for the book of their drawings that has survived, in the possession of Col. Coke of Brookhill Hall.[198] The authorship of these is very doubtful ; it appears that not only had both Robert and Huntingdon a hand in it, but also older and younger members of this " architectural family." Of Ralph (or Rudolph) Simons (or Symons or Symonds) Sir Reginald Blomfield thinks that he designed as well as built much of the work at Cambridge that is commonly ascribed to him, between *c.* 1584–1605.[199] Three plans and three elevations, signed by him and by one Wigge, are preserved at St. John's College. He departed from

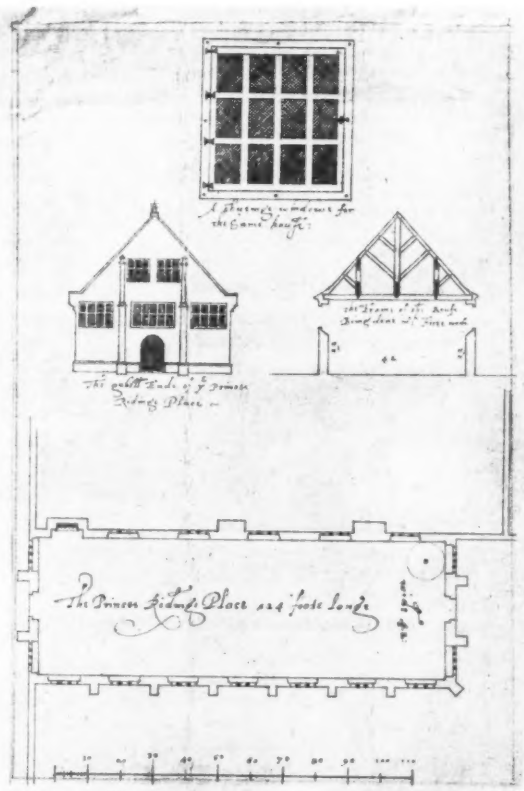

FIG. 15.—PLAN, ELEVATION AND SECTION (ORIGINAL SCALE 24 FT. TO 1 INCH) OF A RIDING SCHOOL
From the Smithson Collection (early 17th century)

Cambridge rather suddenly in 1605, owing to a dispute over some building accounts, leaving Wigge (? his partner) to face the music and eventually to spend some years in gaol.[200]

The seventeenth century in England is so occupied by the gigantic figures of Inigo Jones and Christopher Wren that hardly any other architects, save that pathetic figure John Webb, find a place even as " supers " on the stage. In this brief survey only the salient facts of their careers can be noticed ; their lives and works have been exhaustively treated elsewhere,[201] and here it is possible only to fit them into their positions in our story.

[196] Blomfield, *op. cit.*, p. 39.
[197] Chancellor, *Lives of the British Architects* (1909), p. 46.
[198] See papers in the R.I.B.A. JOURNAL by Gotch (1908), and Adams (1907).
[199] Blomfield, *op. cit.*, p. 42.
[200] *Ibid.*, p. 42.
[201] See Bibliography at end of this Essay.

Inigo Jones (1573–1652) was the son of a Smithfield clothworker, whose chief claim to fame lies in having been fined for using bad language to a lady. A slender tradition relates that he was apprenticed to a joiner in St. Paul's Churchyard; more reliable evidence confirms the fact of his first visit to Italy for the purpose of study, either at the expense of a "noble patron," or simply by the generosity of his loose-tongued but apparently prosperous father. He appears to have stayed in Italy for some years, and then to have done some work in Denmark for Christian IV, though the tradition that he designed some of the great palaces there is insufficiently supported by evidence. He must have been a man of fairly good education, otherwise he could never have "held his own, as he did,

FIG. 16.—FIRST FLOOR PLAN (ORIGINAL SCALE 12 ft. to 1 in.) OF A LARGE HOUSE
From the Smithson Collection (early 17th century)

in the pedantic court of James I";[202] and Webb states that he was "a great geometrician." From 1604 to 1613 he was chiefly employed in designing masques and pageants, features of contemporary life that loom very large in records. From 1613 to 1615 he was again in Italy, studying buildings in Vicenza and Rome, and buying "antiques." Between 1610 and 1612 he acted as Surveyor to the Prince of Wales at a salary of 3s. a day; and in 1615 commenced his real career as an architect, in the post of Surveyor-General of the Royal works at a salary of 8s. a day, together with other monetary allowances and also, evidently, the right to private practice. His brilliant professional career for the next 35 years is familiar to us all, but it may be noted here that while employed on his large architectural practice he continued to design masques; he sowed the seeds of modern English town-planning in his lay-outs of Covent Garden, Whitehall, and Lincoln's Inn Fields; he wrote some "very bad verses";[203] and he carried out extensive researches, published in 1655, at Stonehenge. There is no question of his status in later life: he was an architect pure and simple. He was also a courtier, and suffered severely for his devotion to his royal master during the Civil Wars.

His pupil John Webb (1611–1674) was eclipsed first by the master who had trained him and then, just as fame seemed within his grasp, by the sudden appearance of Wren. He spent three years at Merchant Taylors' School (1625–8) and then became pupil or assistant to Inigo Jones. (It is significant that his master taught him mathematics as well as architecture.) He did much to enhance Jones's reputation by the preface that he wrote to the latter's *Vindication of Stonehenge Restored*; but recent research makes it more and more probable that a large part of the great master's work was carried out by his faithful and self-effacing pupil.[204] A recent article by Mr. Gotch[205] throws light on professional methods at this period. Webb's office was in Scotland Yard, Westminster. He supplied numerous detail drawings (in one case recorded) of chimney-pieces and mouldings, as well as working drawings. These drawings were forwarded (on one occasion at least sewn up in a cardboard case) by carrier to his client, to whom all instructions for the workmen were also sent in a series of letters which have been preserved. These letters prove that Webb had an extensive and aristocratic practice.

Sir Christopher Wren (1632–1723) is undoubtedly the most remarkable figure of this period, if not of all architectural history. The recent bicentenary of his death was made the occasion of recalling the many aspects of his brilliant and even startling career. Born in a country vicarage, with influential relatives who helped him up the ladder, he was an infant prodigy in childhood, and at Westminster School (1641–6) showed signs of great natural abilities. He spent three years between Westminster and Oxford in scientific research in London, and, at an age when a modern schoolboy is dividing his attention between socks and football scores, he translated into Latin a book on geometry. He took his degree at Oxford at eighteen years of age, became a Fellow of All Souls at twenty, and was appointed (rather to his surprise) Gresham Professor of Astronomy at twenty-four. He was largely instrumental in founding the Royal Society and became its President in 1680. He produced a whole list of inventions, beginning with an astronomical instrument which he dedicated to his father in Latin when he was thirteen, and including in later years a weather-clock, an artificial eye, a new hard flooring composition, and devices for improving coach-building and submarine navigation! In 1668 he was described by Newton as

[202] Chancellor, *op. cit.*, p. 55.
[203] *Ibid.*, p. 91.

[204] J. A. Gotch, *Inigo Jones: Some Surviving Misconceptions*, R.I.B.A. JOURNAL, 16th August, 1924.
[205] J. A. Gotch, *Some Newly-found Drawings and Letters of John Webb*, R.I.B.A. JOURNAL, September 24th, 1921.

" one of the foremost geometers of his day " ; in fact, he was one of those rare men to whom all things are possible.

His first architectural work seems to have been a doorway at Ely Cathedral in *c.* 1663,[206] but as early as 1655 he had prepared an estimate (over £13,000) for alterations to buildings at Windsor.[207] He also declined a commission from the King to examine and repair the fortifications of Tangier, and in 1662, while still a professor of astronomy, was consulted about St. Paul's. It is extremely unlikely that he ever had any ordinary architectural training. His visit to France, when he did much sketching in and round Paris, was undertaken during the Plague Year, 1665–6. But though he entered architecture at some thirty years of age, his long life left him sixty years more of crowded work, and the brilliant opportunity afforded by the Great Fire allowed full scope to a genius that was nothing short of marvellous. A mere list of his buildings—from St. Paul's, Hampton Court, and Greenwich downwards—would fill many pages of this essay. The incidents of his career are set out in his *Parentalia* and in many subsequent biographies. But it is not all pleasant reading : the man who, above all others, has left his personal mark on London architecture, spent his last days in an atmosphere of intrigue and ingratitude.

Wren wrote no book on the Orders, but in 1678 there appeared an amusing little work on building construction, *Mechanick Exercises*, which affords a welcome change from Vitruvius, and was written by a " hydrographer, mathematician " (and shopkeeper), one Joseph Moxon, who, like Wren, was a Fellow of the Royal Society. Craftsmanship in Wren's day was still a living thing, and had not yet been completely smothered by Palladian pedants.

It is impossible here to deal individually with the host of well-known English architects of the eighteenth century. Instead, I propose to borrow from Galton the idea of " superimposed portraits," and, by comparing the biographies of some 33 famous men, to attempt some generalisation as to type, though the individuals are as various in type as could well be imagined. At the outset one must exclude at least six who were definitely amateurs; Lord Burlington, Lord Pembroke, Dean Aldrich, " Doctor " Clarke, Sir James Burrough, and James Essex. The first two were *virtuosi* of the best sort ; they certainly did much to foster an interest in architecture of the academic sort that was favoured in their day, and they were directly instrumental in furnishing opportunities of study and advancement to promising young architects. Thus Lord Burlington actually lodged Kent in his own house for many years. The architect of this period dedicated his frequent folios to these " noble patrons " in terms of nauseating servility, but he did depend on them very largely for his livelihood. It was part of a gentleman's education to understand " architecture " (*i.e.*, the Orders), to make the Grand Tour, and to build himself a colossal mansion with suites of monumental rooms, based on the formal principles of Palladio. Aldrich and Clarke at Oxford, Burrough and Essex at Cambridge, did actual building ; but, taken as a whole, their work in the two most beautiful towns in England was for worse rather than for better, and the buildings they have left us are poor compensation for those that they destroyed or mangled.

Of the 27 now remaining on our list, it is interesting to note that Campbell, Gibbs, Adam, and Chambers were Scots ; and that Kent, Wood the Elder, Carr, and Ripley were Yorkshiremen (a high proportion of genius for the North, especially as we know nothing of the antecedents of eight of the remainder). Of those whose parentage is recorded, about half came from the upper and professional classes and about half from the artisan class. Three only (Wood the Younger, Dance the Younger, and Robert Adam) were architects' sons, but others were followed by architect-sons who never attained eminence. Bell, Pratt, Vanbrugh, Archer, and Taylor—among others—entered architecture comparatively late in life ; but few of the rest underwent any professional training. Hawksmoor began as Wren's " scholar and domestic clerk," and became his clerk-of-works on the Palace at Westminster when he was twenty-two. Kent was apprenticed at fourteen to a coach-painter, but, having been sent to Rome by some " noble patron," fell in with Lord Burlington there, after which his career was assured. Batty Langley was at first a landscape-gardener, but later founded a " school of architecture " intended chiefly for the education of carpenters ! Gibbs was fortunate, for, after a good education culminating in a M.A. degree at Aberdeen, he was sent by Lord Mar to Rome to study, and while there he maintained himself by making drawings for aristocratic travellers. John Wood first appears as a surveyor of roads ; Carr as a mason. Ripley, another pushful Yorkshireman, walked all the way to London to seek his fortune, worked as a carpenter there, and at the same time kept a coffee-house. As a young man he married a domestic servant (an imprudence mitigated by the fact that she was employed in Sir Robert Walpole's household) ; but at his second attempt, as a widower, captured an heiress with £40,000. Ware, a chimney-sweep's son, attracted the attention of a " noble patron " who sent him to Italy. Dance the Elder is said to have begun as a shipwright, and Flitcroft (a gardener's son) as a joiner.

Travel in Italy was undertaken only by the more fortunate : Gibbs, Ripley, and Ware having already been mentioned. Sir Roger Pratt seems to have turned to architecture while making the Grand Tour ; Kent was sent to Rome by Lord Burlington, and Dance the Younger and Robert Adam by their fathers, who evidently attached importance to this mode of study. But apart from those three architects who were trained by their own fathers, we only know of Vardy, Brettingham, Paine, Morris, and perhaps Hawksmoor who were pupils or assistants in architects' offices. Many of the rest stepped into architecture from the position of a clerk-of-works, a mason, or a carpenter ; while others approached it from painting or sculpture. There is the strange case of Vanbrugh, who was a soldier and a dramatist before he entered our profession. Flitcroft's translation to the higher sphere of building was due to a fortunate tumble off a scaffold in the presence of the all-powerful Lord Burlington. It may therefore be concluded that architectural education in the eighteenth century was almost non-existent ; that though training in an architect's office and travel in Italy were desirable, they were by no means essential ;

[206] Chancellor, *op. cit.*, p. 127.
[207] J. A. Gotch, in *Wren Bicentenary Volume* (1923), p. 14.

and that any ambitious craftsman who took the trouble to " get up " the Orders found the avenue of success open to him.

A pleasant feature of the eighteenth century is the existence of provincial centres of good architecture, such as are associated with Carr in Yorkshire, with the Woods at Bath, with Bell at Lynn, and with unknown but talented masters at Stamford and elsewhere.

The buildings of the period included an incredible number of great mansions for the nobility and the fifty churches founded by Queen Anne. An architect also undertook large schemes of lay-out, such as the work of the Adams in Fitzroy Square and the Adelphi, of Wood in Bath, of Carr at Harewood in Yorkshire, and so on. Paine designed bridges at Kew, Richmond, Chertsey, and Walton, as well as furniture and even vases. Chambers first became famous as a planner of Chinese gardens ; others turned a more or less honest penny by buying antiques in Italy for " noble patrons." Vanbrugh acted as lessee and manager of the Opera House in the Haymarket, which he bought for £2,000 ; and those artistic souls the Adams ran a lucrative business in " real estate " in London, abreast of their more legitimate and professional activities, until an unlucky speculation in cement brought them to ruin. The Adams seem to have been fully cognizant of all the accepted methods of architectural advertising—permissible and otherwise.

It was an age of great wealth (for the few), and some architects made large fortunes. Sir Robert Taylor left £180,000 to found a school of modern languages at Oxford, " Carr of York " left £160,000 to his heirs, and Archer left £100,000 to a nephew ; Chambers drew £2,000 a year while employed at Somerset House. These figures are, however, exceptional, and many of the salaries and fees recorded are small. Hawksmoor was paid £100 " to gratify him for his work " for the Clarendon Press at Oxford.

But perhaps the most remarkable feature of an extremely pedantic period was the number of books written by architects. Of the 27 men now under discussion, at least 18 published books, some of them many books. The majority of these were either copybooks of the Orders, albums of their own designs for " Noblemen's Mansions," or collections of imaginary designs for gigantic mansions that they felt themselves capable of building. Half of them frankly advertise their authors' supposed merits ; nearly all of them contain pages of fulsome flattery of the grandees to whom they are dedicated and by whom they were often financed. Gibbs is said to have made £1,500 by his *Book of Architecture*, in addition to £400 for the plates. But even such few books as were professedly manuals of building-construction and carpentry were mainly occupied with plates of the Orders and of " Gentlemen's Houses." Batty Langley's *Builder's Compleat Assistant* (1738) shows this tendency, his *The Builder's Jewel : or, the Youth's instructor and Workman's remembrancer* (1757) even more so, and one cannot fail to notice that none of the simpler processes of building are described or illustrated in any of these books ; they seem to have been taken for granted. When Mr. William Pain, " Architect and Joiner," published his *The Practical Builder, or Workman's General Assistant*, in 1774, his object was, according to his own preface, " Plainly and faithfully to answer the Purpose of the manual Artificer," yet almost the whole of the book consists of plates of the Orders and of monumental architectural designs, construction being relegated to a few diagrams illustrating the intricacies of geometrical setting-out, and a few more of trussed girders and roofs. His *Practical House Carpenter : or, Youth's Instructor*, is similar in many respects to the last, only 15 plates out of 116 being in the least practical, though there is a valuable appendix containing an exhaustive list of building prices then current.

Very different in character is Sir William Chambers's *Treatise on the Decorative Part of Civil Architecture*. In the third edition of that celebrated book (1791) the author includes an introduction dealing with the qualifications of an architect. After quoting Vitruvius on the same topic, and pointing out how greatly conditions have changed, he proceeds :—

" Such as intend to make it [architecture] their profession should enter the lists with a good store of health, vigor, and agility ; they should neither be lame nor unwieldy ; neither awkward, slow, nor helpless ; neither purblind nor deaf ; nor have any thing ridiculous about them, either natural or acquired. Their understanding should be sound ; the sight and apprehension quick ; the reasoning faculties clear, and unwarped by prejudices ; the temper enterprising, steady, resolute ; and though benevolent, rather spirited than passive, meek, or effeminate. . . .

" And as at the present time few engage in any profession till qualified for the world by a proper school education at least, it must be supposed, that to a competent proficiency in the learned languages, the student adds a thorough knowledge of his own—so as to speak and write it, correctly, at least, if not elegantly ; that he is a good penman, versed in accounts, a ready practitioner in arithmetic, and has received and profited by such other instructions as tend to fix the moral character, to inculcate integrity, to polish the minds, and improve the manners of youth."

" Proficiency in the French and Italian languages is also requisite to him ; not only that he may be enabled to travel with advantage, and converse without difficulty, in countries where the chief part of his knowledge is to be collected ; but also to understand the many, and almost only valuable books treating of his profession, the greater part of which have never been translated."

He must also acquire the technical jargon of his craft, so that his orders may be understood and intelligently executed by the workmen.

" To these qualifications, mental and corporeal, must be united genius or a strong inclination and bias of mind towards the pursuit in question, without which little success can be expected " . . . " As many sorts of knowledge, very opposite in their natures, come under the architect's consideration, his genius must be of a complex sort ; endowed with the vivacity and powers of imagination requisite to produce sublime or extraordinary compositions ; and, at the same time, with the industry, patience, and penetration necessary to investigate mathematical truths ; discuss difficult, sometimes irksome subjects ; and enter into details of various sorts, often as tiresome as they are necessary ; a genius equally capable of expanding to the noblest and most elevated conceptions, or of shrinking to the level of the meanest and minutest enquiries : as Dr. Johnson expresses it, a mind that at once comprehends the vast and attends to the minute."

" Of mathematical knowledge, geometry, trigonometry, and conic sections should be understood, as teaching the con-

struction, properties, contents, and divisions of the forms used in building; likewise of the raising, conveyance, and application of water, as well as for the common uses of life, as to produce many extraordinary effects, very ornamental in gardening, and efficacious in manufactures."

Commenting on this last paragraph, exactly a century ago, that acute critic Joseph Gwilt observes that

"Mathematics have, perhaps, been too much neglected by some of the Architects of this country. The consequence has been the establishment of a new branch of art whose professors are called civil Engineers."

This statement stands to-day as true as when it was written. Whether one can expect a modern architect, whose repertoire is already extensive enough in all conscience, to recapture the design of bridges and fortifications is very questionable; but upon his knowledge of mathematics, geometry, and mechanics—with all their recent applications to structural science—depends his ability to retain the increasing amount of building that is essentially scientific in its nature. Certainly the day is long past when Tredgold's empirical formulæ can be relied upon to see him through all the problems of his profession.

Returning to Chambers's book, we find the long list of the architect's qualifications set out so fully that much further quotation becomes impossible here. He must be above all things a master of design, he must understand perspective and have "a perfect acquaintance with all kinds of proportions," and he "furthermore must be well versed in the customs, ceremonies, and modes of life of all men his contemporaries," so that he may provide effectively for their needs.

"Neither must he be ignorant of ancient history . . . as the established stile of decoration collects its forms . . . from these abundant sources, which time, and the concurring approbation of many ages, have rendered venerable."

Descending to more prosaic matters :—

"To the excellence of the designer's art, must yet be added the humbler, though not less useful skill of the mechanic and accountant,"

including an acquaintance with all building materials and processes, a power "of regulating the accounts with accuracy" and of dealing with "many men of different professions, capacities, and dispositions; all without violence or clamour, yet with full effect." He emphasises the importance of accurate estimating, dismissing with scorn the rough-and-ready method of those who "Value by the square." He explains that "extras" are due as often to whimsical clients as to careless architects, and urges the value, to all concerned in building, of orders in writing. Finally he shows the importance to the architect of foreign travel, partly, it is true, for the purpose of studying "the purest models," but also because "travelling rouses the imagination" and broadens the traveller's mind. Nowadays these passages may perhaps be regarded as pompous and verbose, yet there is hardly anything in them that does not apply with equal force to-day; for though, as in the eighteenth century, architects continually rise from the ranks by sheer force of genius, their talents are developed and their chances of success increased by a liberal and scientific education.

VIII. THE NINETEENTH CENTURY IN ENGLAND.

From the time of John Shute to that of Sir William Chambers, English architecture drew its chief inspiration, for better or for worse, from Rome. Towards the close of the eighteenth century there was a change, and architects began to look to Greece for ideas. Some critics treat this change as a normal development of the classical tradition, arguing that no abrupt break was involved. But, in the present writer's view, the "Greek Revival," as it is commonly called, was as definite a landmark as the Renaissance itself. For nearly 250 years there had been a certain continuity in design (or in borrowing, as hostile writers claim). This continuity was broken at the end of the eighteenth century, and even to-day we are not quite sure of our direction, though the state of architecure is probably healthier than it has been since Wren's time. The nineteenth century has been rightly called "The Age of Revivals" in English architecture; and the effect of revivalism on architects, whether "Greek" or "Gothic" in their sympathies, can be traced clearly enough in their own careers.

As Mr. Budden has pointed out in his survey[208] of that singular movement, the Greek Revival may be ascribed primarily to the publication of the first volume of Stuart and Revett's *Antiquities of Athens* in 1762. But for 140 years or so prior to that date English travellers had taken some interest in Greek art, though their energies had been confined to material loot, and that dangerous architectural weapon—the book of measured drawings—had not yet made its appearance. Stuart and Revett were competent archæologists, and their admirable work laid the foundation of our present knowledge of Greek monuments. But not all English architects accepted it as their Bible: there were some who took very little notice of the new craze, others who were dabbling in mediævalism long before the later Gothic Revival swept them off their feet, and yet others who contrived to make the best of both worlds by designing in the Greek or the Gothic manner with equal readiness according to the dictates of their fancies or their clients.

The following twelve architects may be regarded as typical of those who mainly favoured the Greek Revival: Nash, Sir John Soane, Wilkins, Sir Robert Smirke, Gwilt, Cockerell, Inwood, Basevi, Sir William Tite, Burton, H. L. Elmes, and "Greek" Thomson. More than in any previous period we find a measure of similarity in the details of their lives. Most of them were the sons of middle-class parents—indeed, no less than six were architects' sons, while Smirke (son of a famous painter), Decimus Burton (son of a wealthy builder), and Soane (son of a small builder or bricklayer)[209] came from homes where architecture would presumably be understood. Of the remaining three—Nash, Tite, and Thomson—it is possible that the last-named was of humble birth, but to a Scot this has never been an insuperable obstacle.

No longer do we find the architect dropping haphazard

[208] L. B. Budden, *The Greek Revival in England* (R.I.B.A. JOURNAL, 1909, p. 177).

[209] Or a stonemason. Budden, *op. cit.*, p. 179.

into his profession from another walk of life and at any age up to fifty or so. Eleven at least of the twelve men mentioned above studied architecture as pupils in an architect's office. The only possible exception is Soane, who is said by Mr. Budden[210] to have been " errand-boy " to George Dance the Younger, but Mr. Bolton, writing later and more fully,[211] states that he was articled to him. Most of the architects' sons acquired additional experience, after their articles, in the offices of other practitioners. As regards their general education, only Wilkins is known to have attended a university, and that when his father was practising architecture in Cambridge. He entered Caius College as a scholar in 1796, and took his degree as sixth wrangler in 1800.

Travel abroad now became more than ever an essential part of an architect's education. Seven of our twelve typical architects travelled in Italy during their student days, and it is significant that five of them extended their tour to Greece. It is noteworthy, too, that all but one of the six architects' sons are found among the travellers (Elmes being the exception), showing that their fathers, not all wealthy men, regarded the study of classical antiquities as important. Travelling in Greece was not only expensive but dangerous,[212] though during the Napoleonic wars Greece was more accessible than Italy. Yet several of the architects under consideration spent many years abroad, Cockerell being absent seven years. Soane and Wilkins at least held travelling studentships, the former from the Royal Academy, the latter as one of " West's Travelling Bachelors." Smirke was another successful R.A. student, being awarded the Gold Medal in 1799.

Naturally, perhaps, many of these architects had an academic bias. What Mr. R. P. Jones has amusingly christened the " folio period " of the Georgian Renaissance gave way to another era of architectural book-making in which Cockerell, Wilkins, and Inwood have an honoured place. But their chief books were scholarly volumes on Greek antiquities, thus forming a welcome contrast to the blatant folios of the Georgians. The chair of architecture at the Royal Academy was occupied successively by Soane, Smirke, Wilkins and Cockerell ; and Soane took three years to prepare a course of six lectures to be delivered from that august position. Many of these men were members of the powerful Society of Dilettanti or of the Society of Antiquaries ; it was essentially a *dilettante* period.

Yet nearly all these architects had large, some enormous, practices. They must have been busy and rich men. Sir Robert Smirke, who designed the British Museum, the G.P.O., and King's College (London), declined all " jobs " of a value less than £10,000 as soon as his feet were on the ladder. He also " initiated the employment of two surveyors for taking out quantities."[213] His work, like that of Burton, was partly for the Government, to whom he acted as " attached " architect. Competitions, both open and limited, were frequently held : thus Soane was placed first out of fifteen competitors at 25 years of age for the Bank of England, and H. L. Elmes for St. George's Hall at Liverpool out of seventy-five competitors at 26 years of age. Cockerell and Wilkins also owed much of their success to competitions, and some architects may possibly regret that " Greek " Thomson's Greek design for the Albert Memorial was not accepted. Tite, best known for his Royal Exchange in London, designed a large number of railway stations, not only in England but in France ; Burton, famous for his architectural work in Hyde Park, specialised in seaside lay-outs at St. Leonards and elsewhere, and carried out many schemes for his father, a speculative builder in a large way ; Nash's stucco streets and terraces are familiar to us all. Except for the last-mentioned pair, the chief architects of the Greek Revival seem to have been strictly professional men, taking no part in speculative ventures ; and " Greek " Thomson, although a Scot, appears to have been one of those born artists who worked for art's sake, designing even furniture and carpets with his own hand, and leaving all the business side of his work to a partner.

The Gothic Revival, obscured for the last forty years by a cloud of ridicule, has suddenly been dragged out into the limelight by an admirer who has tempered his enthusiasm with a lightness of touch that is as rare in such criticism as it is welcome.[214] Fair recognition of this misunderstood movement is certainly long overdue. Few of us to-day are entitled to cast the first stone at its weak points ; for we have seen it replaced successively by revivals of Elizabethan, Jacobean, " Queen Anne," Georgian, and even " Neo-Grec "—all within four decades or so. As we pause before the dreary round begins again, we may at least admit that the Gothic revivalists were sincere enthusiasts, and even allow a grain of truth in Mr. Goodhart-Rendel's ingenious argument that the spirit of Gothic persisted throughout the seventeenth and eighteenth centuries ; not the full-blown Gothic of our cathedrals but the mediæval methods of rustic craftsmen who—undismayed by the thunders of the Palladians—continued to build mullioned windows, steep gables, and bold chimneys. Enough ridicule has surely now been cast on all the " Eminent Victorians " by the present generation ; a more sane and generous attitude is suggested by the sound advice in the Book of Ecclesiasticus :—

" Let us now praise famous men, and our fathers that begat us."

For the weaknesses of the nineteenth century architects are at least matched by those of their predecessors, and the Gothic Revival resembled the Palladian Renaissance most closely when it degenerated into a heresy-hunt. Mr. Goodhart-Rendel thinks that, in this country, " Vitruvius had never become more than a canonised policeman,"[215] but both his halo and his authority have been evident enough in previous chapters of the present study. At any rate, the readiness with which the early Victorians changed their allegiance is remarkable.

The real initiation of the movement seems to date from the publication of Rickman's admirable book, *An Attempt*

[210] Budden, *op. cit.*, p. 179.
[211] A. T. Bolton, *Life and Work of Sir John Soane* (R.I.B.A. JOURNAL, 1922, p. 613).
[212] See R. P. Cockerell, *Life and Work of C. R. Cockerell* (*Archl. Review*, 1902, Vol. XII, pp. 44-6).
[213] *Dictionary of the Architectural Publication Society.*
[214] H. S. Goodhart-Rendel, *English Gothic Architecture of the XIXth Century* (R.I.B.A. JOURNAL, 1924).
[215] *Ibid.*, p. 322.

to Discriminate the Styles of Architecture in England from the Conquest to the Reformation, in 1817 ; its full tide was reached with the appearance of Ruskin's *Seven Lamps* in 1849 and the first volume of his *Stones of Venice* two years later ; its decline may be placed in the eighties of last century. To a large extent it was book-architecture, but nevertheless it responded to something in the national temperament that was English and healthy, while eventually it led to an enthusiasm for the building crafts that was altogether praiseworthy. The defects of Ruskin's architectural philosophy have been emphasised so much lately that we are apt to forget its real merits. It is true that he was intensely dogmatic and blindly partisan ; that he exaggerated the purely romantic and ornamental details of architecture while almost ignoring form and proportion ; and that he preferred Italian and French Gothic to our own. He did actual harm, too, in denying that merely utilitarian buildings should be regarded as architecture ; and it was during the height of his influence that industrialism covered our country with hideous factories, cottages, and railway stations. But he created a genuine popular interest in his own pet styles, and on the whole his plea for sound construction and good craftsmanship absolves him for his serious errors in other directions. Moreover, his insistence on the human aspects of architecture as reflecting life, if often fanciful, was a welcome reaction from the lifeless formalism of the aristocratic eighteenth century.[216]

The architects of the Gothic Revival—especially Pugin, Burges, Street and Bodley—were deeply religious men and enthusiastic artists. Like their predecessors of the Greek Revival, they were mostly the sons of professional men. Thus the fathers of Sir Gilbert Scott and Sir Arthur Blomfield were clergymen, Pugin was the son of an architect, Burges of a civil engineer, Pearson of a painter, and Bodley of a doctor. Burges and Blomfield had a university education ; but, after it, they, like all the other great Victorians, served their articles in an architect's office. Early in the century, it was the fashion for the pupil to " live in," like the old-time London apprentice. Thus Scott lived for four years in his master's house at Homerton, and later his first pupil, Bodley, spent five years in the same way. The term of articles varied from three to five years, and the age of the pupil when he commenced his training was anything from fourteen upwards. Sketching out-of-doors was the usual means of extending a pupil's education ; in England during his period of articles, in France and Belgium or sometimes in Italy in later years. There are few references to the Academy schools in the biographies of these men, but Scott attended lectures there and also went to Maddox's drawing school. Pupilage was usually followed by a few years as assistant before practice was commenced. Street served for five years as " improver " in Scott's office after completing his articles in a provincial town. In student days, as in later life, most of the Gothic revivalists were tremendous workers as well as enthusiasts. Whatever we may think about the movement itself, we can all agree that there is an element of thrill and romance in sketching Gothic detail that one finds in no other style.

Architectural competitions loom very large in this period. Scott, who was born in 1811, won his first church competition in 1838, a limited competition for the Martyrs' Memorial and another for St. Giles', Camberwell, in 1840, the Lutheran Church at Hamburg in 1844, the Town Hall at Hamburg in 1855, and St. Pancras Station and Hotel in 1865. He was unsuccessful with his designs for the Law Courts and also for the Foreign Office, but eventually carried out the latter (after a " Battle of the Styles ") in Renaissance fashion. Burges won another famous competition for Lille Cathedral (1856) at 29 years of age, Waterhouse the Manchester Assize Courts (1859) at the same age, and Street the Law Courts (1866) at 32, while Barry's successful ventures included the Houses of Parliament and the Reform Club. The drawings submitted in competition for the Law Courts, especially those by Scott[217] and Street, show the astoundingly high level of draughtsmanship expected and obtained in these competitions, usually accompanied by a voluminous report. Scott and Waterhouse, especially, had enormous practices which they built up entirely by their own brains and energy. At his death, Scott left a fortune of £120,000.

The range of the architect's work, besides embracing such novel subjects as sanitation, now included the design of many minor features of church embellishment. Bodley's genius for ecclesiastical craftsmanship is well known, but Pugin long before him was a master of all the crafts, and Barry established (in connection with the building of the Houses of Parliament) schools for training stone-carvers, wood-carvers, smiths, glass-painters, and encaustic tile makers. Yet while Bodley was designing chintzes and wallpapers, Burges jewellery and furniture, we hear very little of town-planning, and Scott's Albert Memorial is the chief example of Victorian monumental architecture.

Except Pugin, who was afflicted with the artistic temperament, went mad, and died a disappointed man, most of the leaders of the Gothic Revival obtained their reward of riches and honours in full measure. Many of them became Academicians, some Presidents of the R.I.B.A., and several were awarded the Royal Gold Medal for Architecture. Only a few of them wrote books of any importance : Pugin's volumes of measured details still form a standard work of reference ; Street's studies of Gothic architecture in Italy[218] and Spain[219] had a great and indeed regrettable influence on English design ; and Sir Gilbert Scott's lectures on *Medieval Architecture*[220] at the Royal Academy and his *Gleanings from Westminster Abbey*[221] reveal him as a scholarly writer as well as a successful architect. He also published an interesting if sometimes pompous autobiography.[222] But, compared with the Palladians, the Gothic revivalists excelled as writers in quality rather than quantity, though the works

[216] On this see Halsey Ricardo, *The Architect's Debt to Ruskin*, in the *Builder*, 26 September, 1924.

[217] Photographs of these are preserved in the R.I.B.A. Library.

[218] G. E. Street, *Brick and Marble Architecture in Italy*, 1855.

[219] G. E. Street, *Gothic Architecture in Spain*, 1865.

[220] Published 1879.

[221] Published 1863.

[222] Published 1879.

of laymen like Ruskin, Rickman, and J. H. Parker penetrated to every middle-class Victorian home, and their influence still lingers undiminished in sundry placid cloisters and " colleges of sound learning."

The spacious days of Queen Victoria also saw the foundation and development of many of the institutions that now watch over the interests of architects young and old. The R.I.B.A. was incorporated in 1837, but it had been preceded by various mushroom forerunners, described in Mr. Gotch's admirable history of its first fifty years.[223] In those early days it appears to have been more of a learned society—almost a *dilettante* society—than a trade-union. Its inception was largely due to the energy of its first honorary secretary, Professor Donaldson, and it was intended " to uphold the character and improve the attainments of architects."[224] At first it consisted of about 80 members, a select little band who would be startled if they could see the present roll of members, now numbering many thousands. Its first volume of *Transactions* appeared in 1836, just before the Royal Charter was obtained ; in 1837 Sir John Soane in his will founded the famous prize that still bears his name, a register of assistants seeking employment was opened, and a lecture was given on that perennial subject " Dry Rot " ; in 1838 the eternal problem of regulating architectural competitions raised its head ; and in 1859 the Institute moved from Grosvenor Street to its present handsome but inflammable quarters in the heart of West-End tailordom. The first " Voluntary Architectural Examination " was held in 1862, and the first compulsory examination for Associateship in 1882. Meanwhile the Architectural Association had been founded, in 1847. Before the end of the century several other leading schools of architecture were established, and at last a full-time academic training was offered as an alternative to the hitherto universal but not always satisfactory system of pupilage.

The end of the Gothic Revival forms a convenient point for terminating this study. During the past few months two great architects—Jackson and Collcutt—whose careers commenced in that busy and exciting period, have died ; and to extend the story beyond the 'eighties would carry it within the memories of those who are merely middle-aged. The last fifty years have seen the birth and death of the much-maligned " Arts and Crafts " movement, and the consequent development of a school of domestic architecture in England which has roused the admiration and envy of our colleagues abroad. We are now faced with many urgent professional problems raised by recent changes in social conditions and building methods : the relation of the architect to the engineer in connection with steel structures ; his attitude to town-planning, housing, and speculative building ; his education and his status. Some day these too will form legitimate topics for the historian ; at present they are too much with us to allow of philosophic retrospect.

There is a hint in the air that the age of revivals is over at last. If that be so, then architecture may enter upon a new and glorious chapter of its history, worthy of our great forefathers—men of every time and land—who have raised our ancient calling to its proud position as the " Mistress Art."

A Short Bibliography

(Abbreviations.—A.R. = " Architectural Review " ; J. = " R.I.B.A. Journal " ; S.P. = " R.I.B.A. Sessional Paper.")

NOTE.—The following list of books and articles bearing on the subject of this essay is not exhaustive. It merely includes a selection of the most authentic and accessible works, and is limited to the countries and periods treated herein. Only such books and articles as are of definite biographical value are given. Wherever possible, the date of the first edition is stated, not that of subsequent editions or of translations (if any) into English.

CHAPTER I. THE FIRST ARCHITECTS.

The footnotes in the text give the few sources available.

CHAPTERS II AND III. GREECE AND ROME.

The article " Architectus " in Daremberg and Saglio's *Dictionnaire des Antiquités* (1877, &c.) by M. Charles Lucas, is the only summary of any value for these periods. The articles s.v. " Architect " in the *Dictionary of the A.P.S.* and in Sturgis' *Dictionary of Architecture and Building* are very slight, and the *Encyclopædia Britannica* has nothing under this head. For other references see footnotes in the text. The available sources are very scanty.

CHAPTER IV. THE MIDDLE AGES.

The notices of English mediæval architects in Milizia and other collections are of no value. For William of Wykeham see *Dict. of Nat. Biog.* For France see Bibliography to Chapter VI, also Félibien as below ; but this only goes up to the end of the fourteenth century. See also references in footnotes to this essay to Salzman, Coulton, Jackson, all good.

Félibien, J. F. *La vie . . des plus célèbres architectes* (1690).
Ferrey, B. *Early Medieval Architects* (S.P. 1864).
Lethaby, W. R. *Westminster Abbey and the King's Craftsmen* (1906).
Papworth, W. *Early Medieval Superintendents* (S.P. 1860-1).
Prior, E. S. *The Cathedral Builders in England* (1905).
Quicherat, J. *Facsimile of the Sketchbook of Villard de Honnecourt* (1859).
Scott, Leader (pseudonym). *The Cathedral Builders* (1899).
Street, G. E. *Gothic Architecture in Spain* (1865).

CHAPTER V. THE RENAISSANCE IN ITALY.

(*a*) COLLECTIONS.

Baglione. *Vite de' . . . architetti dal pont. di Greg. XIII–Urbano VIII* (1642).
Milizia, F. *Le Vite dei più celebri architetti* (1768).
Passeri. *Vite di . . . . architetti che hanno lavorato in Roma, morti* 1641-73 (1772).
Soprani and Ratti. *Pittori, scultori, ed architetti Genovesi* (1768).
Temanza, T. *Dei più celebri architetti e scultori Veneziani* (1778).
Vasari, G. *Le vite de' più eccellenti pittori, scultori, ed architetti* (1550).

(*b*) MONOGRAPHS.

Alessi, Galeazzo. By M. S. Briggs (A.R. 1915).
Bernini, Gian Lorenzo. By Baldinucci (1682) ; by D. Bernini (1713) ; by M. S. Briggs (in *Burlington Mag.*, 1915) ; by Max v. Boehm (1912) ; by Fraschetti (1900) ; by F. Pollac (1900) ; by R. Norton (1914) ; by M. Reymond (N.D. recent).

[223] *The First Half-Century of the R.I.B.A.* (JOURNAL, 1922). [224] *Ibid.*, p. 454.

ERRATUM : Footnote 149 (p. 608) should read " Milizia II, 93," not " Vasari II, 93," and the subsequent references on p. 609 are all to Milizia, not to Vasari.

Bianco, Bartolommeo. By M. S. Briggs (A.R. 1915).
Borromini, F. By A. Muñoz (N.D. recent).
Brunellesco (or Brunelleschi), F. By Leader Scott (1901); by P. S. Worthington (J. 1909); by M. Reymond (N.D. recent).
Buonarotti, Michelangelo. By H. F. von Geymüller (1904); by C. Holroyd (1903); by R. Rolland (N.D. recent); by J. A. Symonds (1893).
Cortona, Pietro da. By A. Muñoz (N.D. recent).
Leonardo da Vinci. By Anon (A.R. 1914).
Ligorio, Pirro. By C. A. Harding. (J. 1923).
Longhena, Baldassare. By M. S. Briggs. (A.R. 1916).
Lurago, Rocco. By M. S. Briggs. (A.R. 1915).
Michelozzi, Michelozzo. By F. R. Hiorns (J. 1912).
Palladio, Andrea. By B. F. Fletcher (1902).
Peruzzi, Baldassare. By F. W. Bedford (S.P. 1902); by J. H. Worthington (J. 1913).
Ricchini, F. M. By M. S. Briggs (A.R. 1915).
Sangallo, G. and A. da. By R. Falb (1902); by P. S. Worthington (J. 1921).
Tibaldi, Pellegrino. By M. S. Briggs (A.R. 1915).
Vasari, Giorgio. By R. W. Carden (1910).
Vignola, G. Barozzi da. By M. S. Briggs (A.R. 1915); by F. R. Hiorns (J. 1911).

CHAPTER VI. THE RENAISSANCE IN FRANCE.

(*a*) Collections.

d'Argenville. D. *Vies des fameux architectes* (1787).
Bauchal, C. *Nouvelle Dictionnaire . . . des Architectes Français* (1887).
Berty, A. *Les Grands Architectes Français* (1860).
Blomfield, R. T. *The Italians at Fontainebleau* (A.R. 1902).
Dilke, Lady. *French Architects . . . . of the Eighteenth Century* (1901).
Lance, A. *Dictionnaire des architectes français* (1872).
Quatremère de Quincy. *Histoire de la Vie . . . . des plus célèbres architectes* 1100-1800 (1830).
Vachon, A. *Les Grands Maîtres Maçons* (1910).
(See also the works of Palustre, Ward, Blomfield, and Jackson cited in the footnotes to the text of this essay).

(*b*) Monographs.

Du Cerceau family, the. By H. von Geymüller (1887).
Gabriel, A. J. By E. de Fels (1912).
Philibert de l'Orme. H. Clouzot (1911); by R. T. Blomfield (A.R. 1904-5).
Goujon, Jean. By P. Vitry (N.D. recent).
Lescot, Pierre. By R. T. Blomfield (S.P. 1911).

CHAPTER VII. THE RENAISSANCE IN ENGLAND.

(*a*) Collections.

Chancellor, E. B. *Lives of the British Architects* (1909).
Cunningham, A. *Lives of the British Painters, Sculptors, and Architects* (1829).
(The lives of most of the chief British architects of the Renaissance are given in the *Dict. of Nat. Biog.* and many in the *Encyc. Brit.*; see also the admirable notices in the *Dict. of the Architectural Publication Society.*)

(*b*) Monographs.

Adam, Robert and James. By A. T. Bolton (1922); by J. Swarbrick (1915).
"*Carr of York.*" By S. D. Kitson (S.P. 1910).
Chambers, Sir W. By A. T. Edwards (1924); by I. C. Goodison (A.R. 1913).
Dance, George. By R. T. Blomfield (A.R. 1901).
Hawksmoor, N. By H. S. Goodhart-Rendel (1924).
"*James of Greenwich.*" By M. Judge (A.R. 1912).
Jones, Inigo. By J. A. Gotch (J. 1924); by W. R. Lethaby (A.R. 1912, 1916); by W. J. Loftie (1893); by S. C. Ramsey (1924); by H. Sirr (A.R. 1912); by I. Triggs and H. Tanner (1901).
Kent, William. By Oliver Brackett (A.R. 1911).
Vanbrugh, Sir John. By C. Barman (1924); by G. H. Lovegrove (1902).
Webb, John. By J. A. Gotch (J. 1921); by H. Sirr (A.R. 1912).
Wren Sir Christopher. By his son ("Parentalia"), (1750); by various authors ("R.I.B.A. Bicentenary Vol.") (1923); by J. Elmes (1823); by L. Milman (1908); by A. Stratton (1897); by L. Weaver (1923).

CHAPTER VIII. THE NINETEENTH CENTURY IN ENGLAND.

(*a*) Collections.

Adams, M. B. *Architects from George IV to George V* (J. 1912).
Budden, L. B. *The Greek Revival in England* (J. 1909).
Eastlake, Sir C. L. *A History of the Gothic Revival* (1872).
Goodhart-Rendel, H. S. *English Gothic Architecture of the Nineteenth Century* (S.P. 1924).
Gotch, J. A. *The First Half-century of the R.I.B.A.* (S.P. 1922).
Marriott, C. *Modern English Architecture.* (See Chapter VIII, "The Gothic Revival," 1924).
(The lives of nearly all the chief architects (deceased) of the nineteenth century are given in the *Dict. of Nat. Biog.*, and many of them in the *Encyc. Brit.*, but the best biographical notices for the first part of the century are to be found in the *Dict. of the Architectural Pub. Society*).

(*b*) Monographs.

Barry, Sir Charles. By the Rev. A. Barry (1867).
Bodley, G. F. By E. P. Warren (A.R. 1902).
Burton, Decimus. By R. P. Jones (A.R. 1904).
Cockerell, C. R. By R. P. Cockerell (A.R. 1902); by S. P. Cockerell (1903); by E. Prestwich (J. 1911); by Brydon, J. M. (S.P. 1900).
Elmes, H. L. By R. P. Jones (A.R. 1904).
Nash, John. By W. H. Nash (J. 1923).
Pearson, J. L. By J. E. Newbury (A.R. 1897).
Pugin, A. W. N. By B. Ferrey (1861); by P. Waterhouse (A.R. 1897).
Scott, Sir Gilbert. "Recollections" (autobiography) (1879); by M. S. Briggs (A.R. 1908).
Smirke, Sir Robert. By Sir E. Smirke (*R.I.B.A. Transactions*) (1866).
Soane, Sir John. By A. T. Bolton (J. 1922); by A. T. Bolton (1924)
Street, G. E. By A. E. Street (1888); by W. Millard (J. 1918).
"*Greek*" *Thomson.* By Barclay and Blomfield (A.R. 1904); by T. Gildard (1888).
Waterhouse, Alfred. By T. Cooper (J. 1905).

The author of this Essay hopes to publish shortly a book bearing a similar title, but dealing more exhaustively and intimately with the training, status, and work of the Architect in History.

Reviews

ELEMENTS OF FORM AND DESIGN IN CLASSIC ARCHITECTURE. *By Arthur Stratton, F.R.I.B.A.* [*Batsford. 28s. net.*]

This beautiful book is a most welcome addition to the library of architecture. Mr. Arthur Stratton has here collected for the use of students, and, in fact, for all architects, a splendid series of plates illustrating the principles of composition. His classification of architectural forms is by the plan, and he shows how each form, both in section and elevation, is related to the plan. Nothing could be simpler or more logical; yet this method of exposition enables him to give us an idea of the variety, complexity, and, one may add, the beauty of this classic architecture, which is built up from quite elementary geometrical forms.

He begins with the circular plan and we are shown a number of different treatments of this *motif*—for instance, isolated buildings on a circular plan with peristyle, circular domed buildings with external or internal ambulatories, interiors with or without galleries, and many others, and accompanying these variations of the plan are significant variations of roof covering and lighting arrangements. Next he considers circular and rectangular forms united, and, as may be imagined, the range of his subject has already been greatly increased. Hence to square plans, octagonal plans, semicircular and elliptical plans, rectangular plans disposed for internal effect, internal corridors, vestibules, staircases, gateways and porches. All these are illustrated by examples distinguished in themselves and beautifully drawn; so the book is of immense value to the practising architect.

The Classic style is here not so much defended as taken for granted. By the very simplicity of his outlook, Mr. Stratton succeeds in presenting to us an argument far more powerful than it might have been had he adopted the dual purpose of illustrating the Classic style in operation while at the same time contrasting it with other styles. This work of contrast is for the reader himself to perform. One obvious way, therefore, to profit by this book is to take each of the designs here shown and strip off every Classic column, substituting for it bare constructional posts, or some type of pillar unaccompanied by entablature; such a process will throw much light upon the function of the Classic order. Next one may in imagination strip off all the complex mouldings which grow out of the order and give it æsthetic support. There will then remain the elementary geometrical forms which constitute the "shells" of these designs. It is noteworthy that these geometrical shells are nominally the subject of Mr. Stratton's book. "A geometrical basis," he tells us, "should govern all design, for geometrical forms are naturally more pleasing than irregular figures. The circle, the square and the rectangle, being elemental, are of most frequent occurrence. Certain accepted methods of treating simple circular, polygonal, square and rectangular plans, both internally and externally, cannot be ignored, and familiarity with them derived from a study of the finest works of all times and all countries affords a broad foundation on which to base further solutions." In laying before the student a selected number of architectural compositions in the Classic style, which include combinations of such elementary geometrical shapes as have proved to be of permanent interest and utility to designers, Mr. Stratton hopes that he will give to students knowledge of at least one very important group of architectural precedents, and this knowledge should exert a stabilising influence upon their imaginations. The geometrical forms could have been presented to the student in their basic state without the trappings of the Classic style, but in such form their hold upon his interest and attention would have been so seriously diminished that the primary purpose of the book would probably have failed.

A very cursory glance at the principal monumental buildings that are being erected at the present day will suffice to show that the particular method of design illustrated in Mr. Stratton's pages is not so far removed from modern practice. Thus he cannot be accused of leading his students into architectural byways or of causing their isolation from the main trend of modern development. As he points out, "the greater part of the best European and American architecture is obviously based upon the common classic inheritance deep rooted in principles which have given to the world the supreme achievements of ancient Greece and Rome. The awakening of the fifteenth century in Italy marked a new era of enlightenment and advance in the arts, and as a result of the appreciation of antique models brought about a widespread return to the principles of design by which they are governed. Consequently the culminating periods of Greek and Roman architecture have here been drawn upon as well as the whole range of matured Renaissance architecture in Europe. Ideas developed in continuous sequence during many centuries are here collected. Further, it has been realised that historical motives can be standardised for reference, and that themes acknowledged to be of superlative interest are capable of fresh development irrespective of style or scale."

I have quoted this passage at length because it so well describes and justifies the purpose of this book. Mr. Stratton is not a sectarian. By means of the examples here presented he tells us in effect: "This is what the Classic style can do with the elementary geometrical shapes which are for ever recurrent in building." Whether any other style can do as well or

better remains an open question. It remains to be said that the book is exquisitely produced, and Mr. Stratton is fortunate not only in his publisher but in his collaborators who have contributed the very fine set of line drawings.

A. Trystan Edwards [*A.*]

THE LIFE AND WORK OF SIR JOHN SOANE.

By H. J. Birnstingl. [*London. Ernest Benn, Ltd.*]. *Masters of Architecture Series.* 10*s.* 6*d. net.*

This volume on Sir John Soane, by Mr. H. J. Birnstingl, is one of the most interesting of the series *Masters of Architecture*, by Messrs. Benn Bros. The practising architect will not obtain much information from it which he does not already possess, but it is a concise treatment both of *The Life and Work of Sir John Soane*, admirably illustrated by Mr. Yerbury's photographs.

One cannot help feeling that it is somewhat out of date to worry about whether Soane copied a certain order or not. Soane was in essentials a "Modernist"; he not only had a great knowledge of classical details, but a sound knowledge of construction. It is quite possible that much of the discredit and loss of prestige which architects have experienced in the past generation are largely due to the unintelligent mixing up of the pedantry of archæology with functional design.

Mr. Birnstingl is in deep water when discussing æsthetic principles. Everything which has ever been done from St. Paul's Cathedral downwards has been criticised, but criticism of works of art is usually of little value, as it is so often merely destructive. Soane obviously did not suffer from any lack of ideas. The old question of whether it is legitimate to put recesses in a blank wall is beside the point, and the statement that it exhibits a paucity of ideas is not sound; he who puts a recess in a wall exhibits at least one more idea than he who leaves it blank; the question whether it is not better taste to leave it blank depends entirely on the individual work under discussion. After all, the real thing about a work of art, whether architecture, painting or sculpture, is: Does it or does it not make an emotional appeal to the beholder? The Bank can scarcely be mistaken for anything else, for its purpose is admirably expressed by its exterior. It is refreshing that the design for the rebuilding is much more on the lines of a quiet, dignified mansion than a *tour de force* in heavy classic, such as our American friends are so fond of. It was not necessary for the Bank of England to endeavour to impress anybody.

It is to be regretted that the author and publishers did not find it possible to show a few of Soane's most ingenious and able plans. Imaginative planning was undoubtedly Soane's long suit; he seems to have had that inventive capacity so largely possessed by such men as the Brunels and other early nineteenth century inventors and engineers.

Although he was easily the most original architect of his day, his imagination was not confined to the niceties of new compositions in classical forms; he was excellent at construction, and the first architect to make a fire-proof building in England since the Roman period. The pleasure which he took in vaulting is well shown by numerous illustrations. How admirably he was served by his craftsmen is well shown by the plates, especially 12 and 13, illustrating the old Dividend Office at the Bank of England.

Two of the best photographs in the book are of the Bank, No. 7, the Princes Street entrance, and No. 16, Princes Street entrance vestibule. It is difficult to recollect any vestibule of the same scale or size anywhere which has a similar dignity and bigness.

W. T. Benslyn [*A.*].

THE ANNUAL REPORT OF THE S.P.A.B.

The Society for the Protection of Ancient Buildings was founded by William Morris, Philip Webb, and other members of that brotherhood in the year 1877. The present annual report is, therefore, the 48th of the series.

It has its link with the past in the reprint of the principles of the Society as set forth upon its foundation, which, as in every year, are here included without alteration.

The Society's concern with the present is manifest by the speech made by the Earl of Crawford and Balcarres at the annual meeting in June, and here reported.

Together, these two statements are an epitome of the aims and history of the Society. The first can surely have been written by none other than William Morris himself. The simple, direct, dignified prose bears every evidence of his hand. Lord Crawford's speech was delivered to an audience, and is therefore not altogether on the same plane. It is, however, a notable utterance, and provides a most interesting comparison with the earlier pronouncement.

The first thought that comes to the mind on reading the report is that the enemy has changed. In the early years, "Restoration" was the foe; the "Restoration" of those years of revived interest in Gothic architecture, which so lamentably failed to see the true inwardness of mediæval building, and only succeeded in destroying the interest of so many of our churches, turning them, as Morris said, into feeble and lifeless forgeries.

The clergy and the architects were the chief offenders, and the Society spared them not. The writer's earliest recollections of the "anti-scrape" go back to the time of a pupilage in a diocesan surveyor's office, sometime in the early 'nineties, with a white-haired clergyman bringing a particularly forcible letter from the able secretary of the time with reference to the addition of a new organ chamber to the church. There was pathetic upholding of hands. There were plaintive demands as to "what was to be done with these fellows, some of them no better than atheists."

In these latter days, however, both the church and the

architects are in general sympathy with the Society's aims, restoration of the " scrape " variety is less common, though not, alas, obsolete, and the foe must be looked for elsewhere. Lord Crawford shows where the modern danger lies.

Destruction, not restoration, is the enemy of to-day. And herein lies some heart-searching for practising architects. Here is a humble cottage, old and well-stricken in years, shaken and not a little weary, having for two hundred years sheltered men and women and children, seen births and deaths, been the background of many human lives. Its walls are bulging, its timbers decaying.

Is not our very solicitude for the continuance of its existence to some extent a confession of inferiority and failure ?

Mediæval builders were less careful of the work of their preceding generations.

A superb confidence in the value of their own work made them almost indifferent to the protection of ancient buildings where these in any way interfered with new proposals. And, if we had any security that modern work would be sound and beautiful, we might be less concerned at the disappearance of some of the old buildings which must inevitably be removed to make room for the new. Alas, the melancholy examples of twentieth century buildings which we see growing with the speed of fungoids on every great new road, forbid any such confidence, and we are left with the conviction that to assist the Society is better than to stand aloof from it.

The fate of Waterloo Bridge is still *sub judice*, but, when the battle has been won, the Society may justly claim to have fought valiantly and well for the salvation of this, the finest of London's bridges. Lord Crawford lays stress upon the fact that a large number of bridges have this year come under the consideration of the Society, proving, if proof were necessary, how it has moved with the times, and is alive to present-day needs and dangers.

The action taken in the matter of the London City churches and the Union of Benefices Bill is another instance of this. W. H. ANSELL [*F.*]

Correspondence

INDUSTRIAL RESEARCH.

24 *September* 1925.

The Editor, JOURNAL R.I.B.A.,

DEAR SIR,—Architects are often reproached on account of their indifference to developments in building materials, which, though possibly justified in the case of those of the mature age of the writer, is certainly not true of the younger men, by whom I have heard it suggested that more of your space might sometimes be devoted to such topics. Hoping that you may share this view, I have the privilege to introduce to you a very able correspondent who has consented to send you, from time to time, information in a lay form about the developments in metals (other than iron) used in buildings.

We have all had our problems of zinc flats, lead gutters, corroded and tarnished gas and water fittings and hardware, and we may not all be aware that work on these and many kindred subjects is proceeding for our benefit and that of the public. Dr. R. S. Hutton is the Director of one of the most successful Research Associations, formed by an important combination of Institutions or Societies interested in metals, supported by trading firms and the Industrial Research Department. This Association not only collects and classifies current researches for members but initiates and controls a large number of investigations carried on at various centres by salaried researchers whose reports are made public from time to time by the reading of papers and by the Press. Among these researches is one upon the corrosion of metals by the atmosphere, initiated some years ago by the R.I.B.A., which is proceeding now with two full-time researchers and upon the Committee for which our Institute is still fully represented. Dr. Hutton, acting as he does as Hon. Secretary for this Committee, is in touch with architects' problems and views. Among his many activities he is editor of a journal published by the Association referred to, which appears as a small pamphlet full of concise and inspiring digests of what is going forward, and from this and other sources he has been good enough to offer, amid very heavy duties, to send to you, Sir, for publication, such occasional notes as may, I hope—and in many cases I know will—interest your readers.—I am, Yours faithfully,

ALAN E. MUNBY [*F.*]

MR. REGINALD HALLWARD'S EXHIBITION.

Those who, like myself, are acquainted with this artist's work must have noticed how strikingly it gains when widely varied examples of it are thus brought together. The " one-man show " is, as we know, a severe test ; many cannot face it, and many others lose ground under the ordeal ; for in the one-man show no secrets are hid. The artist whose individuality appears stronger when his work is thus displayed, who expresses in a hundred frames the thought not to be packed into the narrow act of a single canvas, is obviously worthy of being understood, but Mr. Hallward's show does not seem to have been particularly well attended and it is a question whether his work has ever won the recognition it deserves.

In the limited space now available it is only possible to refer to what is, for us, the first matter of interest in Mr. Hallward's varied activities—namely, his decorative design. This is as individual as that of William Morris ; it is indeed more so, for Morris's design was rooted in tradition, as we were reminded a few years ago when the Rheims tapestries were on view at South Kensington. Mr. Hallward's designs, on the other hand, owe nothing to tradition except the instinct with which the designer addresses himself to his work : they call to mind neither Romanesque, Byzantine nor Gothic, yet partake of the spirit of all of them. They are individual, yet they are devotional. We are so drenched with the stark, imitative, slick, plausible designs, purveyed to us by firms who besiege our custom like flies, that tradition, which is "what the public wants," has become the stock in trade of the cheapjack ; sincere and individual design, which is all architecture should be concerned with, seems odd, and the salesman sets his mark upon our public buildings and our churches as he does upon our villas and our shops. H. B. CRESWELL [*F.*].

REGISTER OF ARCHITECTS WILLING TO TAKE RECOGNISED SCHOOLS STUDENTS IN THEIR OFFICES.

On the recommendation of the Board of Architectural Education, the Council have decided to establish at the office of the R.I.B.A. two registers :

(1) a register of advanced students of recognised schools,
(2) a register of the names of architects willing to take such students.

The intention is in this way to assist advanced students up to the stage of the completion of their qualifications for exemption from the Final Examination ; one of the qualifications for exemption from the Final Examination being twelve months' experience in an office during the fourth and fifth years of the school course.

The Council hope that general use will be made of the registers, and that as many Architects as possible will place their names upon the register.

R.I.B.A. EXAMINATIONS.

The following are the dates for the forthcoming R.I.B.A. Examinations :—

Intermediate Examination.

20, 21, 23, 24 and 26 November 1925. (Last day for receiving applications—17 October 1925.)

28, 29, 31 May, 1 and 3 June 1926. (Last day for receiving applications—23 April 1926.)

Final and Special Examinations.

2, 3, 4, 5, 7, 8 and 10 December 1925. (Last day for receiving applications—30 October 1925.)

7, 8, 9, 10, 12, 13 and 15 July 1926. (Last day for receiving applications—4 June 1926.)

Examination for the R.I.B.A. Diploma in Town Planning.

30 June, 1, 2 and 5 July 1926. (Last day for receiving applications—1 March 1926.)

R.I.B.A. INTERMEDIATE EXAMINATION, NOVEMBER 1925.

The centres for this examination will be London and Leeds. At both centres the examination will be held from 20 to 24 November 1925 inclusive.

At the London centre the oral examination will be held on 26 November, at the Leeds centre on 25 November.

THE ARCHITECTURE CLUB EXHIBITION.

The Third Exhibition of the Architecture Club, comprising Recent Architecture, Architectural Decoration and Architects' Preliminary Sketches, will be held in the R.I.B.A. Galleries from Tuesday, 27th Oct., to Saturday, 14th Nov., 1925, inclusive (Sundays excepted). The Exhibition will be open to the Public from 10 a.m. to 8 p.m. Admission 1 - including catalogue.

R.I.B.A. SOIRÉE.

To celebrate the amalgamation of the Society of Architects with the R.I.B.A., a Soirée will be held in the R.I.B.A. Galleries on November 13th. Invitations are now being issued and it is expected that the occasion will be marked by a large and representative gathering of members and guests.

Notices

THE OPENING GENERAL MEETING.

The first General Meeting (Ordinary) of the Session 1925–26 will be held on Monday, 2 November 1925, at 8.30 p.m., for the following purposes :—

To read the minutes of the sixteenth General Meeting of the Session 1924–25, held on 22 June 1925 ; formally to admit members attending for the first time since their election or transfer.

To read the names of candidates nominated for election on 30 November 1925.

Mr. E. Guy Dawber, F.S.A. (President), to deliver the inaugural address of the Session, and to unveil and formally present the portrait of Mr. J. Alfred Gotch, F.S.A., Past President, painted by Mr. T. C. Gotch.

To present the R.I.B.A. Medal and Diploma for the Best London Street Frontage, 1924, to Messrs. F. H. Greenaway and J. E. Newberry, FF.R.I.B.A.

ELECTION OF MEMBERS.

Associates who are eligible and desirous of transferring to the Fellowship class are reminded that, if they wish to take advantage of the election to take place on 15 February 1926, they should send the necessary nomination forms to the Secretary R.I.B.A. not later than 28 November 1925.

LICENTIATES AND THE FELLOWSHIP.

The attention of Licentiates is called to the provisions of Section IV, clause 4 (*b*) and (cii), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

THE R.I.B.A. NEW CLASS OF SUBSCRIBERS.

In the Supplemental Charter recently granted to the R.I.B.A., provision is made for the formation of a non-corporate class of Subscribers. The Council have the power to elect to this new class any persons who, not being professional architects, are interested in the activities of the Royal Institute and in architectural matters generally.

" Subscribers " will be entitled to use the Loan and Reference Library, to attend all General Meetings (except private Business Meetings) and to receive a copy of the Annual Report. They will not, however, be entitled to use in connection with their name or business any words or initials indicating that they are Members of or connnected with the Royal Institute.

The annual contribution payable by a " Subscriber " will be £1 1s. The first payment will become due within two months of election and subsequent payments on the first of January each year. Subject to the additional payment of 12s. per annum, Subscribers will also receive post free the R.I.B.A. JOURNAL, which is published fortnightly during the Session (November to June) and monthly during the recess.

The Council cordially invite applications from ladies or gentlemen who desire to be thus associated with the work of the Royal Institute, and the necessary nomination form can be obtained on application to the undersigned.

Election of Members

30 NOVEMBER 1925.

The following applications for election have been received. Notice of any objection or other communication respecting the Candidates must be sent to the Secretary for submission to the Council prior to Monday, 2 November 1925.

AS FELLOWS (100).

ABERCROMBIE: PROFESSOR LESLIE PATRICK, M.A. Liverpool [*A.* 1915], Department of Civic Design, School of Architecture, University of Liverpool; 18 Village Road, Oxton, Birkenhead.

BINNIE: MAJOR WILLIAM BRYCE, M.C. [*A.* 1920], Imperial War Graves Commission, Longuenesse, St. Omer (P. de C.), France.

DICKMAN: HENRY ALDERMAN, M.C. [*A.* 1910], 1 King's Walk, Nottingham; Wood Lane, Gedling, Nottingham.

DOBIE: WILLIAM GLEN [*A.* 1892], The Temple, Dale Street, Liverpool; Brarhead, Orton, Birkenhead.

HENNELL: SIDNEY THORN [*A.* 1910], 97 Jermyn Street, Piccadilly, W.; 16 Earlsfield Road, Wandsworth, S.W.18.

HOBBS: FREDERICK BRICE [*A.* 1895], May Buildings, 51 North John Street, Liverpool; "Tower Lea," Waterloo, Liverpool.

JACKSON: GORDON WALLET [*A.* 1925], 5 Yelverton Road, Bournemouth; Bydand, Penrith Road, Boscombe, Bournemouth.

MCLEAN: ARCHIBALD JOHN [*A.* 1909], 3 Palace Place, Brighton; 179 Ditchling Road, Brighton.

METCALFE: CECIL BROADBENT [*A.* 1909], County Offices, Jermyn Street, Sleaford, Lincs; 68 Grantham Road, Sleaford.

POLE: THOMAS ALOYSIUS [*A.* 1895], 10 Gray's Inn Square, W.C.1; Hurlocks, Billericay, Essex.

SUTCLIFFE: FREDERICK [*A.* 1919], 21 Northumberland Avenue, W.C.2; 33 Cator Road, Sydenham, S.E.

TASKER: WILLIAM WATT, M.C. [*A.* 1909], The Moothall, Newcastle-on-Tyne; 32 Larkspur Terrace, Newcastle-on-Tyne.

TURNER: HORACE GEORGE [*A.* 1910], c/o Messrs. Hemmings & Berkley, Hankow, China.

WOOD: ARTHUR JACKSON [*A.* 1914], 18 New Street, Leicester; "Prestwold," Westfield Road, Leicester.

WOOLLATT: JOHN [*A.* 1910], Eldon Chambers, Wheeler Gate, Nottingham; Newcastle Avenue, Beeston, Notts.

And the following Licentiates who are qualified under Section IV, Clause C (ii), of the Supplemental Charter of 1925:—

ABBOTT: ERNEST HENRY, 6 Warwick Court, Gray's Inn, W.C.1; 41 Queen's Gate Gardens, South Kensington, W.

BAKES: JAMES HARPER, Calverley Chambers, Victoria Square, Leeds; 12 The Grove, Idle, Bradford.

BIRAM: ERNEST FRANK STUART, 17 George Street, St. Helens, Lancs; 1 Princes Gate East, Liverpool.

BOYD: JOHN WILLIAM, 9 Salisbury Gardens, Newcastle-on-Tyne.

COMPTON: CHARLES EDWARD, St. Hilary, 49 Llanthewy Road, Newport, Mon.

DAVIES: SAMUEL, 6 Alvanley Terrace, Frodsham, Cheshire.

FRENCH: SIDNEY, 40 Regent Street, Cambridge.

GARDNER: ALEXANDER, 134 Bath Street, Glasgow; "Kingsbeck," 89 Eldon Street, Greenock.

GARRETT: THOMAS, 34 Ship Street, Brighton; 54 Brunswick Square, Hove.

HEYWOOD: JAMES HERBERT, 1 St. Peter's Street, Oldham; 73 Queen's Road, Oldham.

MORRIS: WILLIAM RICKARDS, 22 The Forbury, Reading; "Gorphuysta," Northcourt Avenue, Reading.

NUNNS: WILLIAM RHODES, Estate Office, Saltaire; 2 Albert Road, Saltaire.

PARR: THOMAS HENRY NOWELL, 42 Cranley Gardens, S..W7; "Beverley Oaks," Warren Road, Coombe Warren, Surrey.

RAFFLES: WINTER HARGREAVES, 12 Bloomsbury Square, W.C.1; 22 The Grove, Boltons, South Kensington, S.W.10.

SHARP: WALTER RICHARD, 40 South King Street, Manchester; "Paxford," St. Andrews Road S., St. Anne's-on-Sea.

SIMPSON: GEORGE, 233 St. Vincent Street, Glasgow; 6 Milner Road, Jordanhill, Glasgow.

TRIBE: ARTHUR WALTER, 33 Craven Street, Strand, W.C.; Arundel House, Cheam, Surrey.

WEST: JOHN GEORGE TIMOTHY, The Knowl, Abingdon.

WILKINSON: ARTHUR GROSVENOR, Imperial War Graves Commission, St. Omer, France; 19 Rue Carnot, St. Omer, France.

WINMILL: CHARLES CANNING, 2 Eliot Place, Blackheath, S.E.3.

And the following Licentiates who have passed the qualifying examination:—

ADAMS: WILLIAM HENRY, Town Hall, Highgate, N.6; 37 Chandos Avenue, Oakleigh Park, N.20.

ANDERSON: STANLEY PERFITT, 13 Durlston Road, Kingston-on-Thames.

BENTLEY: CLAYTON MOFFAT, 53 Church Street, Whitehaven.

BEVERIDGE: DAVID ALSTON, Prudential Buildings, 36 Dale Street, Liverpool; 2 Manville Road, Wallasey, Cheshire.

BIRD: ERNEST, 11 Portland Street, Southampton; 55 Lumsden Avenue, Southampton.

BLACKBOURN: CHARLES EDWIN, 34 Finsbury Square, E.C.2; 355 High Road, Tottenham, N.15.

BODDY: PERCY CHARLES, 19 Palace Street, Westminster, S.W.1; "Sorrento," Ruislip, Middlesex.

BRETT: CHARLES, 168A Albion Road, Stoke Newington, N.16.

BRETT: ERNEST JOHN, 72 West Boro', Wimborne Minster, Dorset; Anglebay, Colehill, Wimborne.

BRIDGES: OSWALD ARTHUR, "Waratah," Richmond Avenue, Bognor, Sussex.

BROWNE: F. ANSTEAD, Architect to the County Agricultural and Small Holdings Committee of the Cheshire County Council; Inglewood, Dee Hills Park, Chester.

BURGESS: JULIAN GULSON, Beaconsfield and 13 Gray's Inn Square, W.C.; Netherlands, Beaconsfield.

BURNETT: ERNEST WHITFIELD, The Estate Office, Colwyn Bay, N. Wales; "Toft Butt," Llannerch Road West, Colwyn Bay.

CAMERON: EDWIN PERCY, 16 and 17 Devonshire Square, Bishopsgate, E.C.; 18 Eastwood Road, South Woodford, Essex.

CANNELL: ERNEST WILLIAM, 259 High Holborn, W.C.; 39 Hetherfield Road, Streatham Hill, S.W.

CASTLE: SYDNEY ERNEST, 40 Albemarle Street, Piccadilly, W.1; Burntwood Lane, Wandsworth Common, S.W.17.

CHERRY: HAROLD GRIFFITH, 7 Buckingham Street, Adelphi, W.C.2; Digswell, Welwyn, Herts.

COTMAN: GRAHAME, Queen Street, Norwich; Mill Hill, Strumpshaw, Norwich.

DAVIS: HAROLD STRATTON, M.C., 65 Northgate Street, Gloucester; Home Cottage, Hardwicke, nr. Gloucester.

EVANS: ERNEST HOLLYER, 17 Bedford Square, W.C.1.

FAIRWEATHER: HUBERT MOORE, 12 Carteret Street, Queen Anne's Gate, S.W.1; 25 Beeches Avenue, Carshalton, Surrey.

FORBES: JAMES, 19 Grange Road, Middlesbrough; Craigievar, Marton-in-Cleveland, Yorks.

HAIGH: BERTRAM HUGH PARKIN, Broadway Court, Westminster, S.W.1; "Woode Weye," Heronsgate, Chorley Wood, Herts.

HARPER : LEONARD EWEN, 191 Corporation Street, Birmingham ; " Briarwood," Blossomfield, Solihull, Birmingham.
HARRINGTON : LLEWELLYN HARRY, " Fourways," Croham Manor Road, South Croydon.
HIDER : ERNEST JAMES WEDLOCK, 11 Avenue Chambers, Southampton Row, W.C.1 ; Hillboro', The Mount, New Malden, Surrey.
HILL : JOHN JAMES, Emerson Chambers, Blackett Street, Newcastle-on-Tyne ; " Meadowfield," Runnymede Road, Ponteland, nr. Newcastle-on-Tyne.
HORSBURGH : WILLIAM PETER, F.S.I., D16 Exchange Buildings, Liverpool ; 17 Victoria Road, Waterloo, nr. Liverpool.
JOHNS : EDWIN THOMAS, 8 Lower Brook Street, Ipswich.
JONES : ALBERT HENRY, Victoria Station House, S.W. ; Thurmo, West Hill, Sanderstead, Surrey.
JONES : FRANCIS EDWARD, 8 Gloucester Mansions, Cambridge Circus, W.C.2 ; Beechboro', 189A Park Road, Kingston Hill, Surrey.
LYONS : HENRY JOHN, 14 South Frederick Street, Dublin ; The Gables, Seafield Road, Clontarf, Dublin.
MCINTOSH : DAVID GORDON, 60 Castle Street, Liverpool ; Stivelooms, Heswall-on-Dee, Cheshire.
MACINTOSH : HUGH, 1 Imperial Buildings, East Croydon, Surrey ; Braeside, Sandy Lane, Wallington, Surrey.
M'LACHLAN : JAMES, 4 Melville Crescent, Edinburgh ; 125 Warrender Park Road, Edinburgh.
MCLAUCHLAN : STEWART, Royal Liver Building, Liverpool ; " Nethway," Rock Park, Rock Ferry.
MATHESON : DONALD, Tulloch Street, Dingwall, Ross-shire ; " The Birches," Craig Road, Dingwall.
MOODEY : ERNEST EDWARD, 109 High Street, Broadstairs ; St. Vincent, Luton Avenue, Broadstairs.
MORRISON : JAMES INCH, 24 Duke Street, Edinburgh.
MURRAY : JOHN, 56 Chatsworth Road, Luton, Beds.
NEWBOLD : HARRY BRYANT, Stafford House, Norfolk Street, Strand, W.C.2 ; Chantry Cottage, Hatfield, Herts.
NURSE : HARRY, M.C., Borough Engineer and Surveyor's Office, Town Hall, Leigh, Lancs ; " Newlands," Great Sankey, nr. Warrington.
PEARCE : JOSEPH PEARCE, F.R.Hist.S., Royal Insurance Buildings, Liverpool ; 9 Beach Lawn, Waterloo, Liverpool.
PEMBERTON : GUY, 120 Edmund Street, Birmingham, and 20A Henley Street, Stratford-on-Avon ; Pyeford, St. Gregory's Road, Stratford-on-Avon.
POMEROY : ERNEST JAMES, 21 Acresfield, Bolton ; " Fairhaven," Harpers Lane, Smithills, Bolton.
POOLE : WILLIAM HAROLD, 33 Earl Street, Maidstone ; 7 London Road, Maidstone.
POULTER : HARRY REGINALD, 2 London Road, Camberley, and 27 Buckingham Gate, S.W.1 ; Collingwood Place, Camberley, Surrey.
RAVENSCROFT : FREDERICK ERNEST BRIANT, 16 Friar Street, Reading ; " Thornhill," The Mount, Caversham.
RIMMINGTON : FRANK, Harrington Chambers, 26 North John Street, Liverpool ; " Wynthorpe," Greenhill Avenue, Mossley Hill, Liverpool.
ROWLAND : HAROLD EVANS, 17 Craven Street, W.C. ; The Gatehouse, Purley, Surrey.
RUTHERFORD : JAMES HERVEY, 13 Lendal, York ; 4 Clifton Dale, York.
SCAIFE : WILLIAM NIXON, 26 Northumberland Street, Newcastle-on-Tyne ; 38 South Parade, Whitley Bay.
SHANN : FRANK HALLIWELL, 71 Lombard Street, E.C. ; 33 Belgrave Road, S.W.
SHERVEY : ALBERT EDWARD, Town Hall, Bournemouth ; 18 Stafford Road, Bournemouth.
SIMMONS : CHARLES EVELYN, Palace Chambers, Bridge Street, S.W.1 ; Wyldes Close, North End, Hampstead, N.W.11.
STODDART : DONALD MCKAY, 266 St. Vincent Street, Glasgow ; 41 Kelvinside Gardens, N., Glasgow.
SUDBURY : HARRY TATHAM, Rutland Chambers, Ilkeston ; Wayside, Longfield Lane, Ilkeston.
THORPE : FRED, Union Bank Chambers, Church Lane, Oldham ; " The Haven," Grasscroft, Greenfield, Yorks.
THRAVES : ALFRED JOHN, 11 High Street, Nottingham ; " Wolds Cot," Plumtree, Notts.
VAUX : FRED, Danesmoor Chambers, 29 Quay Road, Bridlington ; " Methley," Station Road, Filey, E. Yorks.
WAGSTAFF : CLARENCE BARNARD, 57 Salter Gate, Chesterfield.
WEBBER : FRANCIS SIDNEY, 30 Lee Park, Blackheath, S.E.3.
WEBSTER : WILLIAM EDMUND NORMAN, 1A New Road, Spalding, Lincs : " Normacott," Pennygate, Spalding.
WEIGHTMAN : FREDERICK NORMAN, M.A., 2 Collingwood Street, Newcastle-on-Tyne ; 65 Manor House Road, Newcastle-on-Tyne.
WEST : ARCHIBALD BULLER, The Knowl, Abingdon.

AS ASSOCIATES (62).

AIMER : KENNETH WALTER [Special], 423 N.Z. Insurance Buildings, Auckland, New Zealand.
ALLCORN : WILLIAM JOHN [Final], " The Pinnacles," Shipbourne, nr. Tonbridge, Kent.
ANDREWS : CLAUDE EVRARD ALDINGTON, B.Sc. [Special], 29 Greenhill Road, Moseley, Birmingham.
ASTBURY : FRANK NICHOLAS, B.Arch. Liverpool [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], Waverley House, Wolverhampton Road, Stafford.
BAILY : BRUCE WILLIAM SEYMOUR STILES [Special], c/o Mrs. James, St. Dial's House, Cwmbran, Mon.
CAMERON : ARTHUR EDWIN [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 18 Eastwood Road, South Woodford, E.18.
CHANNON : GUY DUNSTAN [Special], Red Walls, Malton, Yorkshire.
CHATTERLEY : ARTHUR OLIVER, B.Arch. Liverpool [Final], 73 Oriel Road, Bootle, Liverpool.
CLARK : JAMES CHARLES [Passed six years' course at Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination after passing Examination in Professional Practice], 258 Great Western Road, Aberdeen.
COLEMAN : SAMUEL ERNEST [Special], Ryde Road, Gordon, New South Wales.
CONOLLY : HAROLD [Final], Aysgarth, Walton, Wakefield, Yorks.
COOPER : JOHN BRIAN [Final], 68 Torrington Square, W.C.1.
CROSSLEY : FREDERICK HAMER [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], 15 Arnside Road, Wallasey, Cheshire.
CUTBUSH : PATRICK [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], " Kerri," Arkley, Barnet, Herts.
DEAS : THOMAS VICTOR [Passed five years' course at Glasgow School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], Vicarsford, Airdrie, Lanarkshire.
FAHY : CONOR PATRICK [Special], 33 Leppoc Road, Clapham, S.W.4.
FARQUHAR : LUDOVIC GORDON, F.S.A.Scot. [Passed five years' course at Glasgow School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], St. Margaret's, Bridge of Weir, Renfrewshire.
FORSTER : EDWARD, B.A. [Final], 1 Leaside Avenue, Muswell Hill, N.10.

GALE : DERMOT WILLIAM FAUNTLEROY [Special War Examination], " Minilya," Walsh Street, South Yarra, Melbourne, Victoria.

GLASHAN : WILLIAM [Passed six years' course at Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination after passing Examination in Professional Practice], 173 Holburn Street, Aberdeen.

GREEN : FRANCIS ERNEST [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], " Alstone," Ealing Road, Wembley, Middlesex.

GREENIDGE : JOHN THEODORE WATERMAN [Passed five years' course at London University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], Chesham House, Kettering, Northants.

GREGOR-GRANT : GARROW [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 1 Staple Inn, Holborn, W.C.

HARMAN : RICHARD STRACHAN DE RENZY [Final], 16 Endsleigh Street, W.C.1.

HUME : BERTRAM STEWART [Final], Echeverria 2790, Buenos Aires.

KHAN : HASAN HAYAT [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 35 Bedford Square, W.C.1.

KING : JOHN GOULD [Final], 70A St. George's Road, S.W.1.

LANDER : FELIX JAMES [Final], 4 Brampton Road, St. Albans.

LAWRIE : ROBERT SORLEY [Passed six years' course at Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination after passing Examination in Professional Practice], 12 Claremont Street, Aberdeen.

LEWIS : DORIS ADENEY [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 41B Belsize Park, Hampstead, N.W.3.

LOUW : HENDRIK JACOBUS [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], Suider Paarl, South Africa.

METCALFE : JOHN ARMSTRONG [Final], Vale View, Wingfield Road, Whitchurch, near Cardiff.

MILLER : JOSEPH CHARLES [Final], 101 Stanmore Road, Mount Florida, Glasgow.

MINOPRIO : CHARLES ANTHONY [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], Avening Court, Gloucestershire.

MOBERLY : SYLVIA GRACE [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 18 Gordon Square, W.C.1.

MORRISON : ROBERT HORN [Passed six years' course at Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination after passing Examination in Professional Practice], 8 Union Terrace, Aberdeen.

OWEN : JOHN HUGH LLOYD, B.Arch. Liverpool [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], 47 Osborne Road, Tue Brook, Liverpool.

PAGE : WILLIAM PALMER [Special], " Riverslea," King William Street, Greenwich, Sydney, N.S.W.

PARKER : JOHN HERBERT [Final], 12 The Homesteads, Muswell Hill, N.10.

PERCIK : WOLF [Passed five years' course at Architectural Association. Exempted from Final Examination after passing Examination in Professional Practice], 7 East Tenter Street, E.1.

PRICE : WILFRED JOHN BROOKHOUSE [Final], 34 Kensington Gardens, Ilford, Essex.

READ : GEOFFREY ERNEST [Final], " Ashgrove," 134 Church Road, Upper Norwood, S.E.19.

RIX : ALEC DONALD [Final], 2 Salcombe Gardens, Clapham Common, S.W.4.

SENYARD : LEONARD [Special], 58 Redcliffe Square, South Kensington, S.W.

SHARMA : PURSHOTTAM LAL [Final], The Agra Marble Works Co., Drummond Road, Agra, U.P., India.

SHAW : CHARLES CECIL, B.Arch. Liverpool [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], 14B Mortimer Crescent, St. John's Wood, N.W.6.

SIMPSON : JAMES ROUNTHWAITE MOORE [Special], 33 Northway, Hampstead, N.W.11.

SMITH : ERIC STEWARD [Final], 76 Elmhurst Road, Reading, Berks.

STOKES : HORACE WILLIAM [Final], 119 Wills Street, Lozells, Birmingham.

TAYLER : KENNETH SEAWARD [Final], 41 Cranbourne Gardens, Golders Green, N.W.11.

THEARLE : HERBERT [Passed five years' course at Liverpool University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], 42 Wyresdale Road, Aintree, Liverpool.

THOMPSON : ARNOLD JOHN [Special], 7 Old Court House Street, Calcutta, India.

TOCHER : WILLIAM [Final], c/o J. C. Procter, Esq., 62 Woodhouse Lane, Leeds.

TOONE : AUBREY ALFORD GIFFORD [Final], c/o 9 Woosung Road, Shanghai, China.

UNWIN : EDWARD [Special], Wyldes, North End, N.W.3.

WALKER : ARCHIBALD GRAHAM [Passed five years' course at Glasgow School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], 36 Kersland Street, Glasgow, W.

WILSON : PERCY ROY, B.Arch.(McGill) [Passed five years' course at McGill University School of Architecture. Exempted from Final Examination after passing Examination in Professional Practice], c/o H. T. Lindeberg, Esq., 2 West 47th Street, New York City, U.S.A.

WINTER : FRANK THOMAS [Special], Holmer Green, High Wycombe, Bucks.

WOOD : THOMAS RUDDIMAN [Passed six years' course at Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination after passing Examination in Professional Practice], 2 Ravine Terrace, Roker, Sunderland.

WOODGATE : JAMES AUSTEN [Special], Hawke House, Barrack Hill, Hythe, Kent.

WRAY : KENNETH FLETCHER [Final], Strathmore, Conisbro, near Rotherham, Yorkshire.

WRIGLEY : FRED HILDRED [Final], 2 King Street, Wakefield.

AS HON. ASSOCIATES (3).

BRICE : ARTHUR HALLAM MONTEFIORE, J.P., F.R.G.S., Recorder of Tewkesbury, and of the Middle Temple of the Oxford Circuit ; Barrister-at-Law, 2 Hare Court, Temple, E.C.4.

CAMERON : SIR DAVID YOUNG, R.A., R.S.A., LL.D., 40 Queen's Road, St. John's Wood, N.W.8.

SMITH : SIR ARTHUR HAMILTON, M.A., F.S.A., F.B.A., Keeper of Greek and Roman Antiquities in the British Museum ; President of the Society for the Promotion of Hellenic Studies ; Chairman of the Faculty of Archæology, History and Letters in the British School at Rome ; British Museum, W.C.1.

AS HONORARY CORRESPONDING MEMBERS (5).

CORT Y BOTÍ: CÉSAR, Principal, Madrid School of Architecture, Segovia 6, Madrid.

GIOVANNONI: GUSTAVO, Professor of Architecture in the R. Scuola d' Ingeneria and in the R. Scuola sup. d' Architettura in Rome, Via Torino 135, Rome.

KEMAL AD-DIN: PROFESSOR A., Chief Architect to the Moslem Supreme Council in Palestine, Jerusalem, Palestine.

SCIORTINO: ANTONIO, Professor of Arts, Honorary Director of the British Academy of Arts in Rome, 53 Via Margutta, (Palazzio Patrizi), Rome.

STRZYGOWSKI: DR. JOSEF, Professor of History of Art, Vienna University, Horlg. 6, Vienna IX.

Competitions

PORTSTEWART GOLF CLUB COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

INTERNATIONAL COMPETITION.

The Fédération Internationale du Bâtiment et des Travaux Publics are organising an International Competition with a view to promoting and facilitating the construction of houses for the middle classes and intellectual workers. Prizes to the value of 500 dollars, 300 dollars and 200 dollars are being offered by Mr. Willard Reed Messenger, engineer, of New York, for a memorandum, either in English or French, not exceeding 5,000 words, accompanied by sketches. Particulars of the competition have been deposited with the Secretary R.I.B.A. and can be obtained on application to him at No. 9 Conduit Street, London, W.

RECONSTRUCTION OF THE MOSQUE OF AMROU COMPETITION, CAIRO.

Members of the Royal Institute who are considering taking part in the above competition are strongly recommended to consult the Secretary R.I.B.A. before deciding to compete.

PROPOSED NEW TECHNICAL SCHOOL AT COOKSTOWN.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

LEAGUE OF NATIONS.

COMPETITION FOR THE SELECTION OF A PLAN WITH A VIEW TO THE CONSTRUCTION OF A CONFERENCE HALL FOR THE LEAGUE OF NATIONS AT GENEVA.

The League of Nations will shortly hold a competition for the selection of a plan with a view to the construction of a Conference Hall at Geneva. The competition will be open to architects who are nationals of States Members of the League of Nations.

An International Jury consisting of well-known architects will examine the plans submitted and decide their order of merit.

A sum of 100,000 Swiss francs will be placed at the disposal of the Jury to be divided among the architects submitting the best plans.

A programme of the competition when ready will be despatched from Geneva, and Governments and competitors will receive their copies at the same time. Copies for distant countries will be despatched first.

The British Government will receive a certain number of free copies. These will be deposited at the Royal Institute of British Architects, and application should be made to the Secretary, R.I.B.A., 9, Conduit Street, W.1, by intending competitors.

Single copies can be procured direct from The Secretary-General of the League of Nations at Geneva, for the sum of 20 Swiss francs, payable in advance, but will not be forwarded until after the Government copies have been despatched.

On the nomination of the President of the Royal Institute, Sir John Burnet, A.R.A., has been appointed as the British representative on the Jury of assessors.

THE NEW INSTITUTE FOR THE BLIND, BUENOS AIRES, ARGENTINE REPUBLIC.

An International Competition has been promoted for the Argentine Institution for the Blind, Buenos Aires, Argentine Republic.

A small number of copies of the Conditions have been deposited in the R.I.B.A. Library for the information of British Architects who may desire to compete.

A booklet containing the full text of the conditions with other information (translated from the Spanish) and a plan of the ground on which the Institution is to be erected is available for inspection at the Department of Overseas Trade (Room 42), 35 Old Queen Street, London, S.W.1.

PROPOSED NEW COLLEGE BUILDINGS, LIVERPOOL COLLEGE.

Proposed New College Buildings to be erected on a site in Queen's Drive, Mossley Hill, Liverpool. Assessor, Sir Giles Gilbert Scott, R.A. Premiums £500, £300 and £200 are offered. Last day for questions, 30 September 1925. Conditions may be obtained by depositing £2 2s. Designs to be sent in not later than 1 January, 1926.

AUSTRALIAN WAR MEMORIAL—CANBERRA.

Competitive designs are invited for the Australian War Memorial at Canberra.

The competition is open to architects of Australian birth, wherever located, and in order that competitors who are abroad may be placed on the same footing as those in Australia, the conditions governing the competition will not be available in Australia until 15 August, at which date they will be available at the office of the High Commissioner, Australia House, Strand.

To ensure that the same working time is allowed to all competitors, the competition will close simultaneously in Australia and London on 31 March, 1926, up to noon, on which date designs from architects in Europe will be received at the office of the High Commissioner in London.

Intending competitors should communicate with the Official Secretary to the Commonwealth of Australia, Australia House, Strand, W.C.2.

COMPETITION FOR THE ENLARGEMENT OF CARNEGIE HALL, DINGWALL, AND THE FLEETWOOD HOSPITAL COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above competitions because the conditions are not in accordance with the published regulations of the Royal Institute for Architectural Competitions.

COVENTRY AND WARWICKSHIRE HOSPITAL. PROPOSED NEW WARD BLOCK.

The promoters of the above competition having decided to revise the conditions in accordance with the R.I.B.A. Regulations, the President has appointed Mr. C. E. Bateman, F.R.I.B.A. as assessor.

PROPOSED PARISH HALL, BRAUNTON.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

TOPSHAM PUBLIC HALL COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

The promoters of the above competition have decided to amend the conditions in accordance with the R.I.B.A. regulations and have asked the President to appoint an Assessor.

Members' Column

CHANGE OF ADDRESS.

MR. H. C. HUGHES [*A.*] has moved his office to No. 1 Tunwell's Court, Trumpington Street, Cambridge (opposite the Fitzwilliam Museum). Telephone as before, Cambridge 184.

MR. T. LAWRENCE DALE, F.R.I.B.A., has changed his London address to 22 Craven Street, Strand, W.C. Telephone Regent 7178.

MESSRS. BETHELL, SWANNELL & DURNFORD, 1 Broad Street Buildings, Liverpool Street, E.C.2, have transferred their offices to Adam House, 16A John Street, Adelphi, W.C.2. The new telephone number is Regent 3183.

MESSRS. ROUGH & HOOPER, are removing their offices from 509 Smiths Buildings, Albert Street, Auckland, N.Z., to A.M.P. Buildings, Victoria Street, Auckland.

DISSOLUTION OF PARTNERSHIP.

THE partnership subsisting between George Arthur Boswell, F.R.I.B.A., and Leonard Rome Guthrie, F.R.I.B.A., at 37 Bruton Street, London, W., has been dissolved by mutual consent as from 31 August 1925.

A DISSOLUTION of partnership as and from 31 March 1925, has been mutually agreed between Mr. A. Archer-Betham, F.R.I.B.A., and Mr. F. W. Rees, Lic. R.I.B.A., of 44 Park Lane, Croydon. Mr. Rees will continue to carry on business at the above address under his own name. Mr. Archer-Betham has been appointed architect to the Government of Sierra Leone, West Africa.

MESSRS. WIMPERIS, SIMPSON & GUTHRIE

MESSRS. EDMUND WIMPERIS & SIMPSON, FF.R.I.B.A., architects, of 61 South Molton Street, W.1, and Mr. L. Rome Guthrie, F.R.I.B.A., architect, of 37 Bruton Street, W.1, have entered into partnership and will practise under the name of Wimperis, Simpson & Guthrie, at 61, South Molton Street.

PARTNERSHIP WANTED.

ASSOCIATE (over 40 years of age) who is a qualified Quantity Surveyor (F.S.I.) and Civil Engineer (A.M.I.C.E.), desires partnership or appointment as Consultant.—Apply Box 4515, c/o Secretary R.I.B.A., 9 Conduit Street, London, W.1.

OFFICE ACCOMMODATION TO LET.

MEMBER offers private office together with use of general office, telephone, clerical and tracing assistance, £65 p.a. inclusive. Near Gray's Inn.—Apply Box 6501, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

A.R.I.B.A. wishes to let part of his office situated in a main road between Charing Cross and Victoria, preferably to young architect wishing to commence practice. 'Phone and typist available. The office is situated on third floor of large office building, off main staircase corridor with lift just outside door. Low rental to right man.—Apply Box 9105, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

SMALL pleasant office to let in Westminster, adjoining other architects—about £20 a year.—Apply Mr. A. S. G. Butler, F.R.I.B.A., 6 Old Queen Street, Westminster.

FLAT TO LET.

MEMBER has an unfurnished self-contained flat, with private forecourt and entrance, to let, consisting of large sitting-room, kitchen, two bedrooms, and bath room with geyser, in his own house, 7 St. Peter's Square, Hammersmith. Pleasant surroundings, three minutes from river, three minutes from District Railway.—Apply Box 7667, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

APPOINTMENTS WANTED.

LICENTIATE, experienced, available for temporary assistance, surveys of old buildings, working drawings, specifications and supervision of works. Special knowledge of steel construction and London Building Acts.—Write Box 4211, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

MANAGING ASSISTANT (A.R.I.B.A.) with long experience in domestic and other work, seeks responsible appointment which would include an arrangement for continuing and sharing own small practice, and with a prospect of ultimate partnership. Apply Box 1310, c/o The Secretary, R.I.B.A., 9, Conduit Street, W.1.

A.B.S. SCHEME OF PROFESSIONAL INSURANCE.

Insurance to-day is a very complicated business and too much care cannot be exercised in the choice of an insurance company and of a policy. If, however, architects consult the Insurance Committee of the Architects' Benevolent Society, they are sure of obtaining competent guidance in all insurance matters. Especially favourable terms are secured by the Society, and every insurance negotiated through its agency results in a direct contribution to the Benevolent Fund. Enquiries should be addressed to the Secretary, A.B.S., 9 Conduit Street, W.

BRITISH ARCHITECTS' CONFERENCE AT OXFORD.

Members who took part in the British Architects' Conference at Oxford last year may be interested to know that an illustrated history of the Castle Crypt and Mound has now been prepared and the booklet can be obtained, price one shilling, on application to the Governor, H.M. Prison, Oxford.

R.I.B.A. JOURNAL.

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Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.